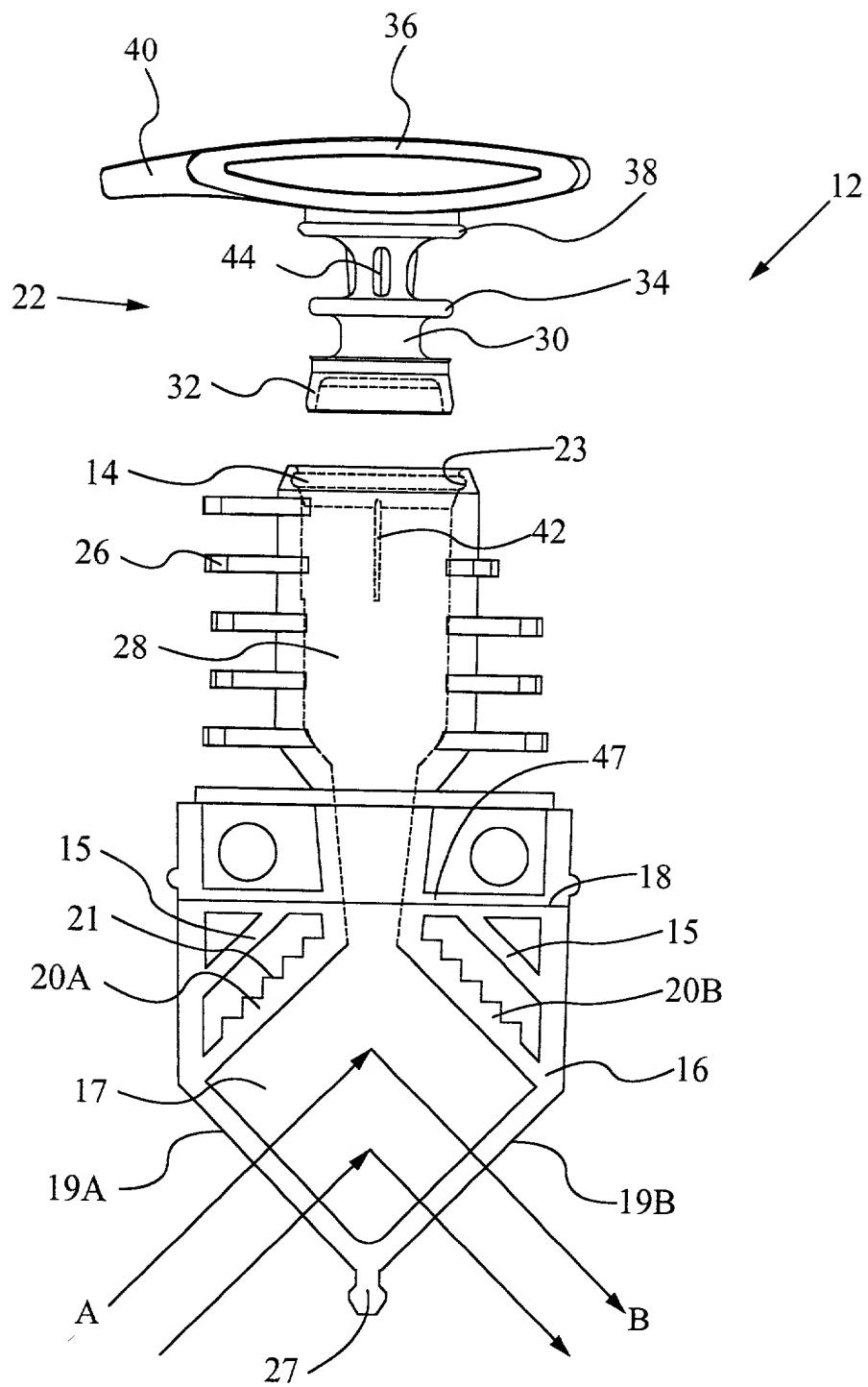


FIG. 1

**FIG. 2**

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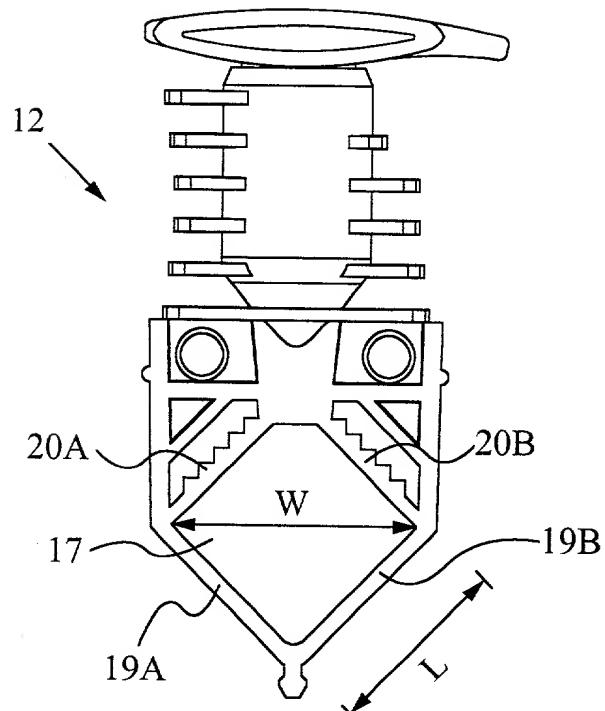


FIG. 4

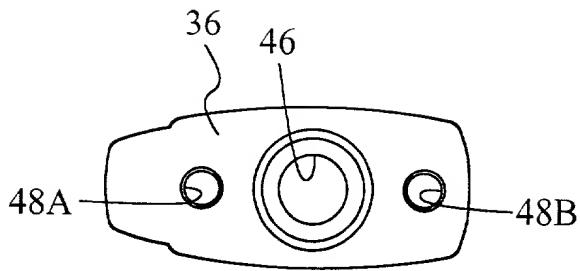


FIG. 3

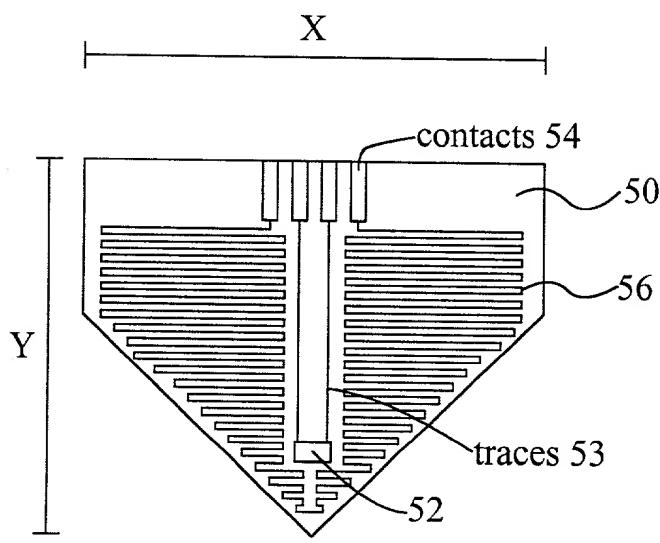


FIG. 6

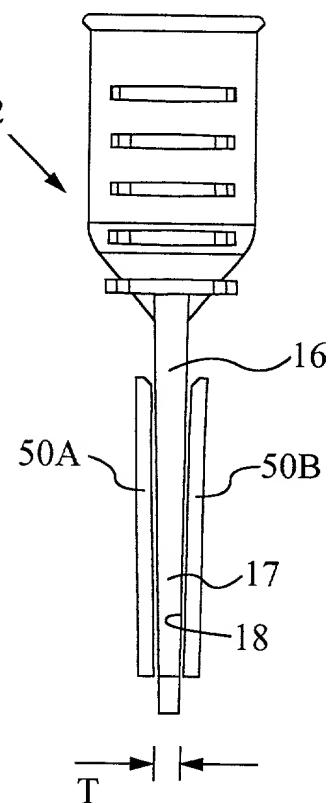


FIG. 5

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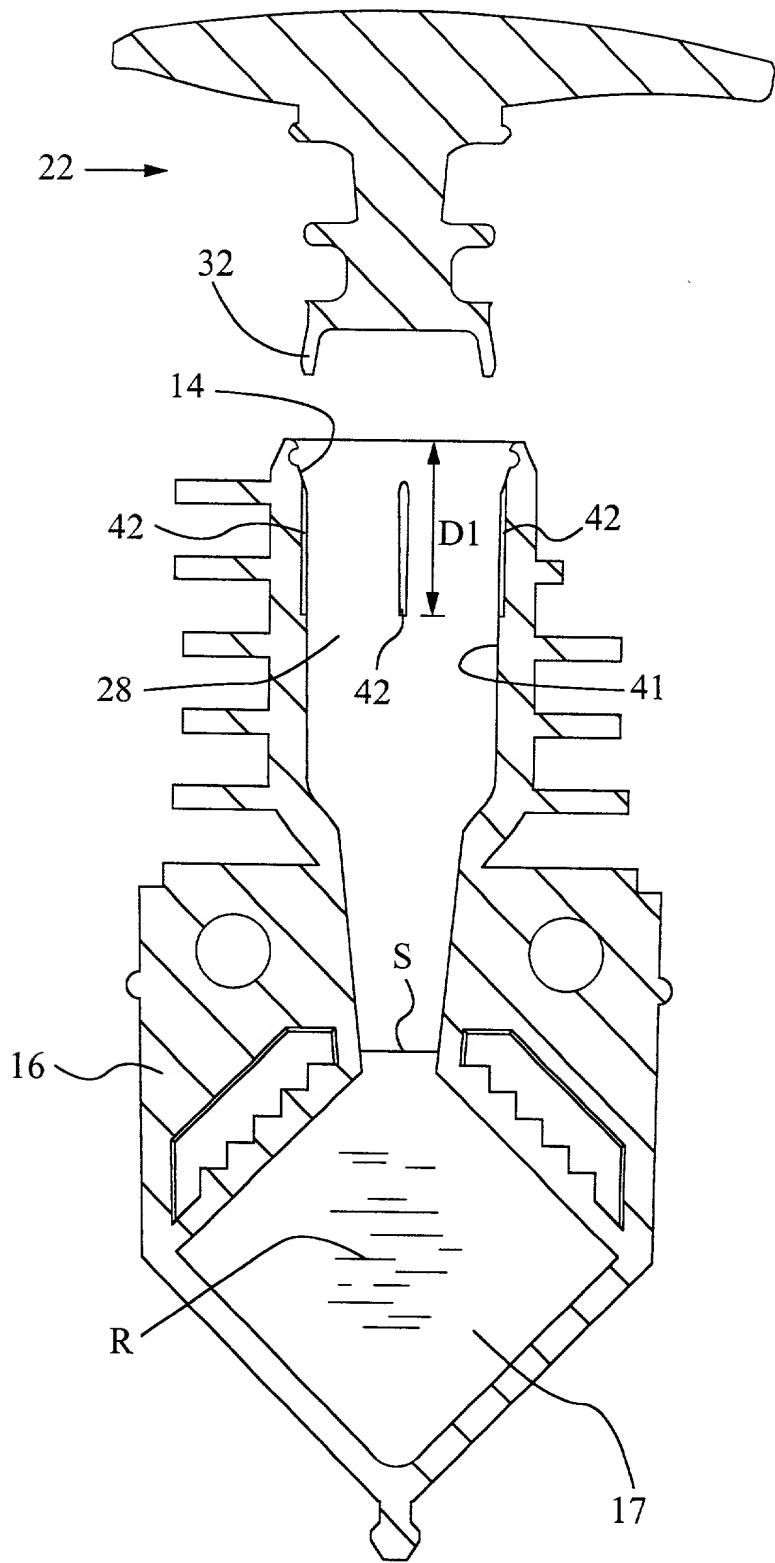


FIG. 7A

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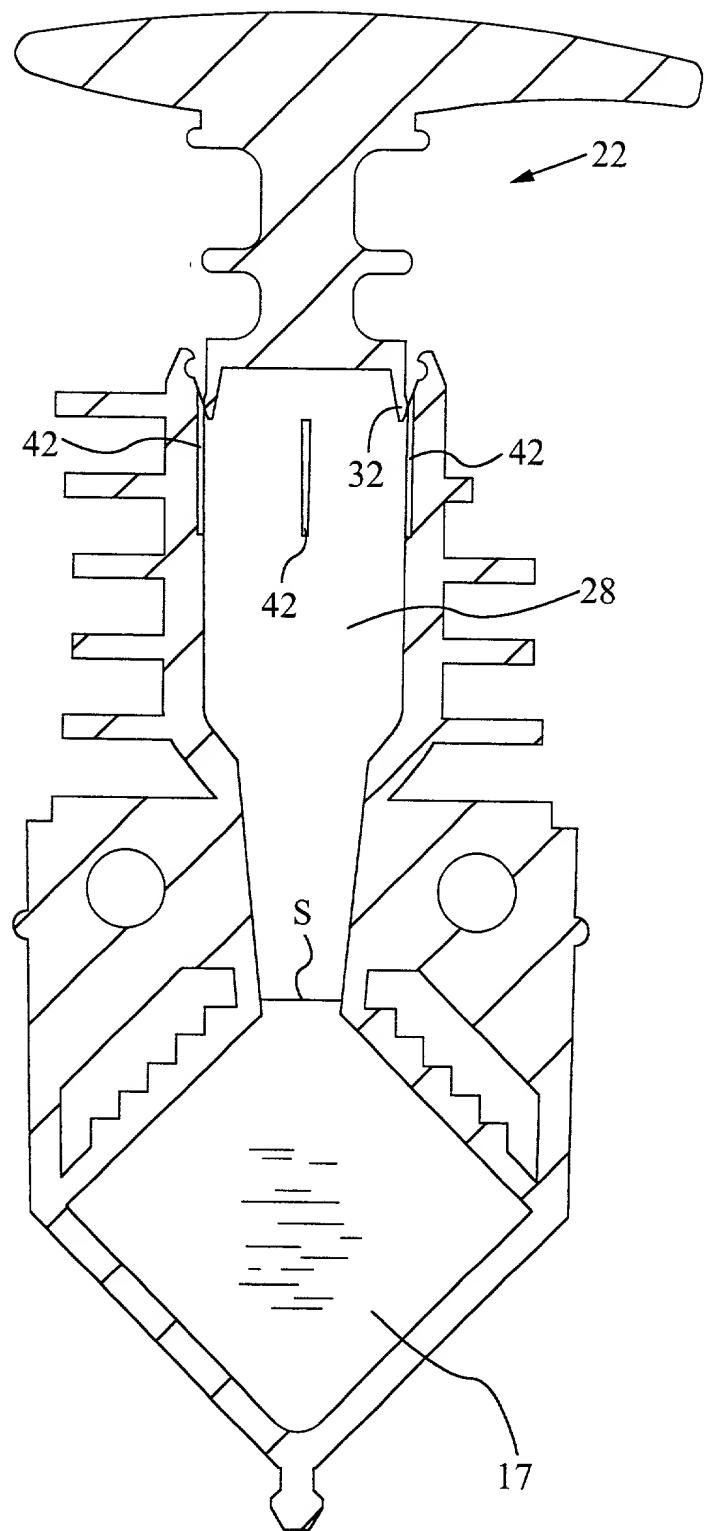


FIG. 7B

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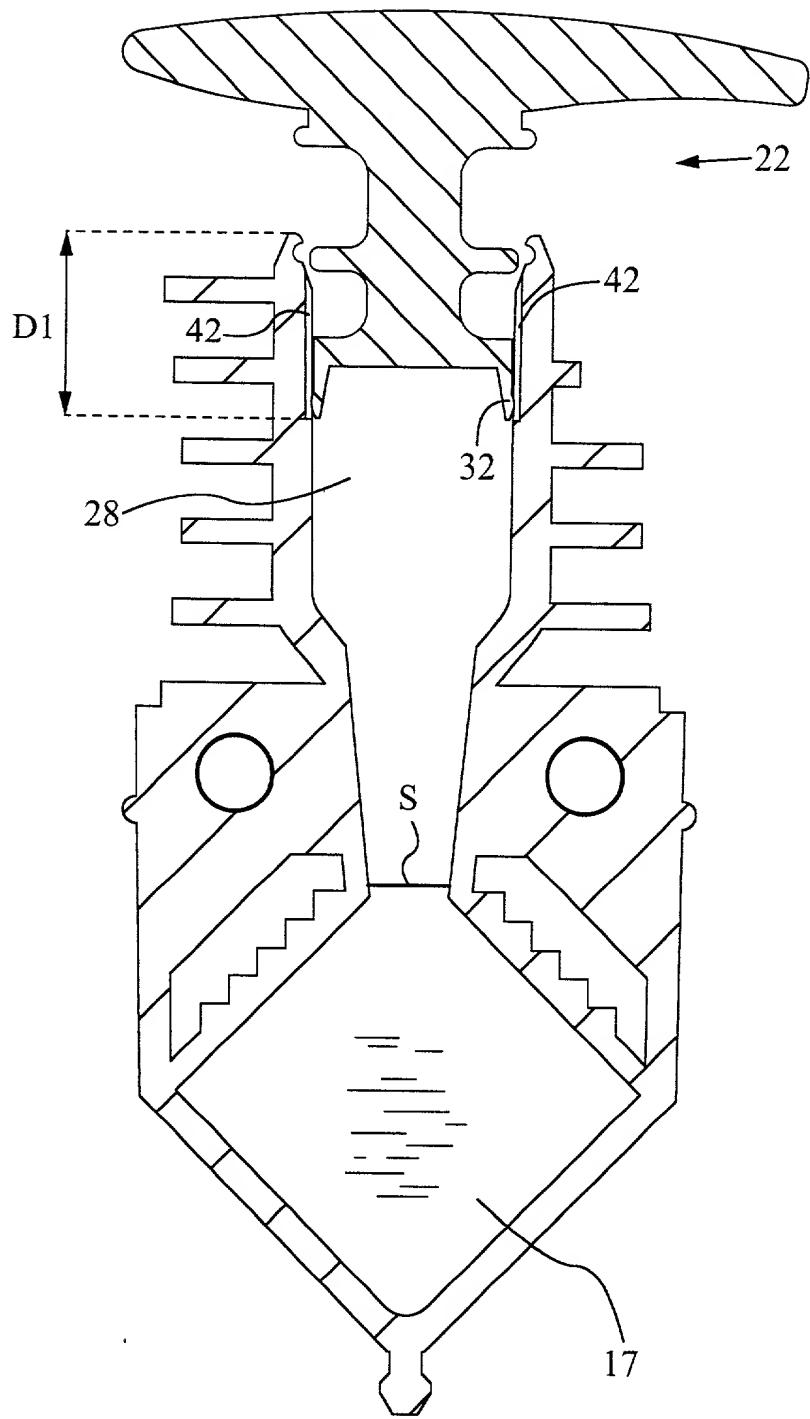


FIG. 7C

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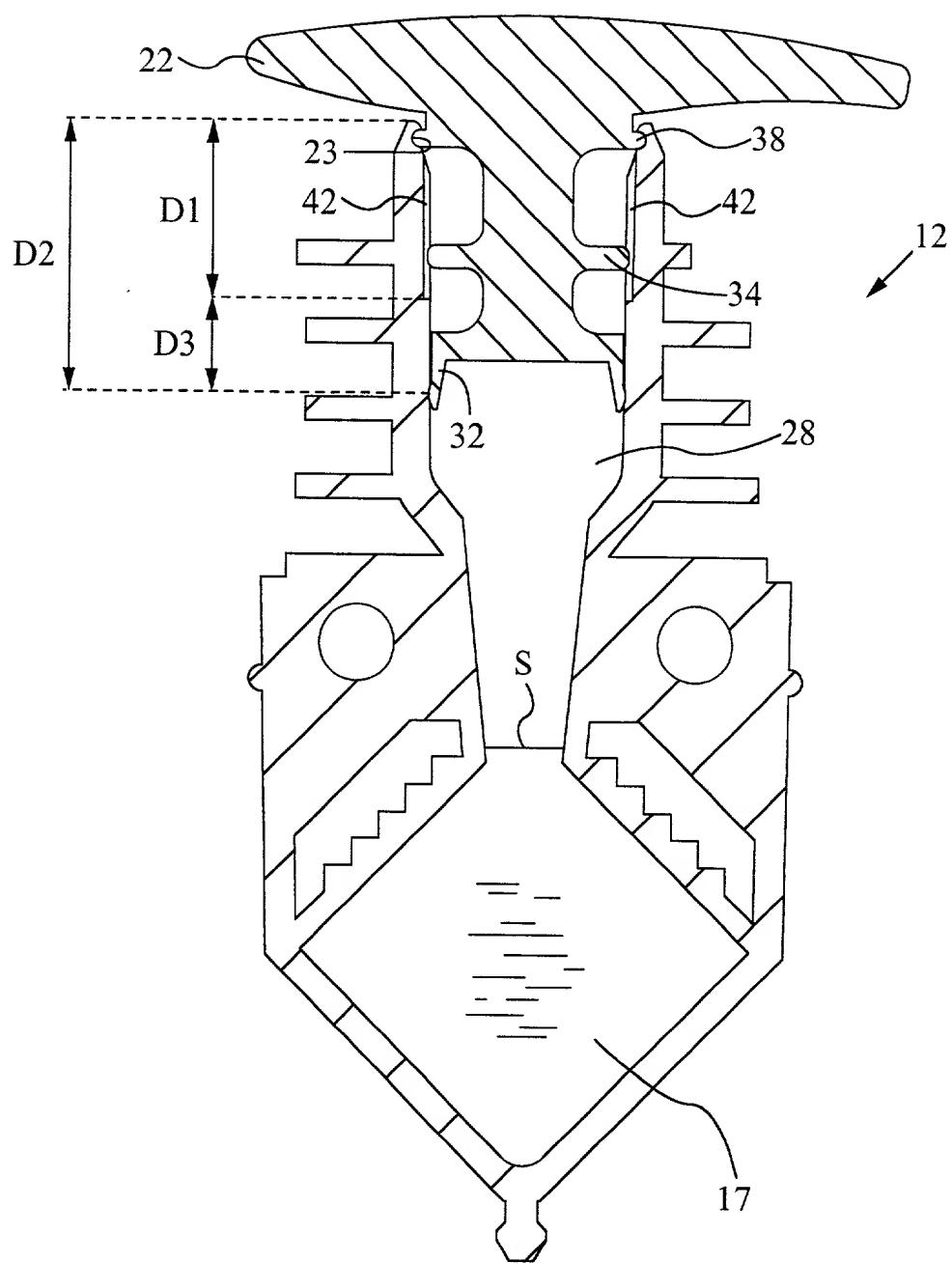


FIG. 7D

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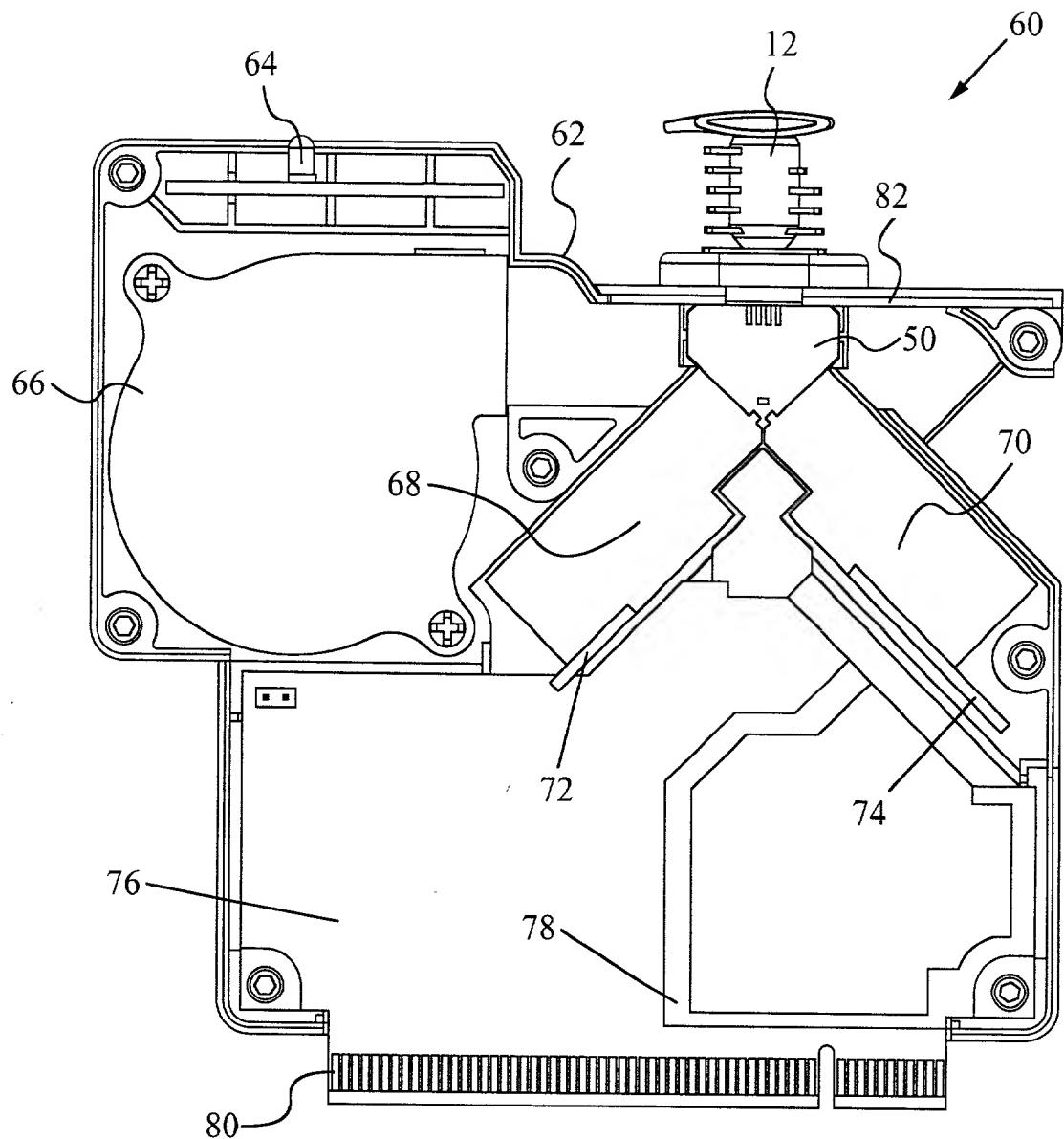


FIG. 8

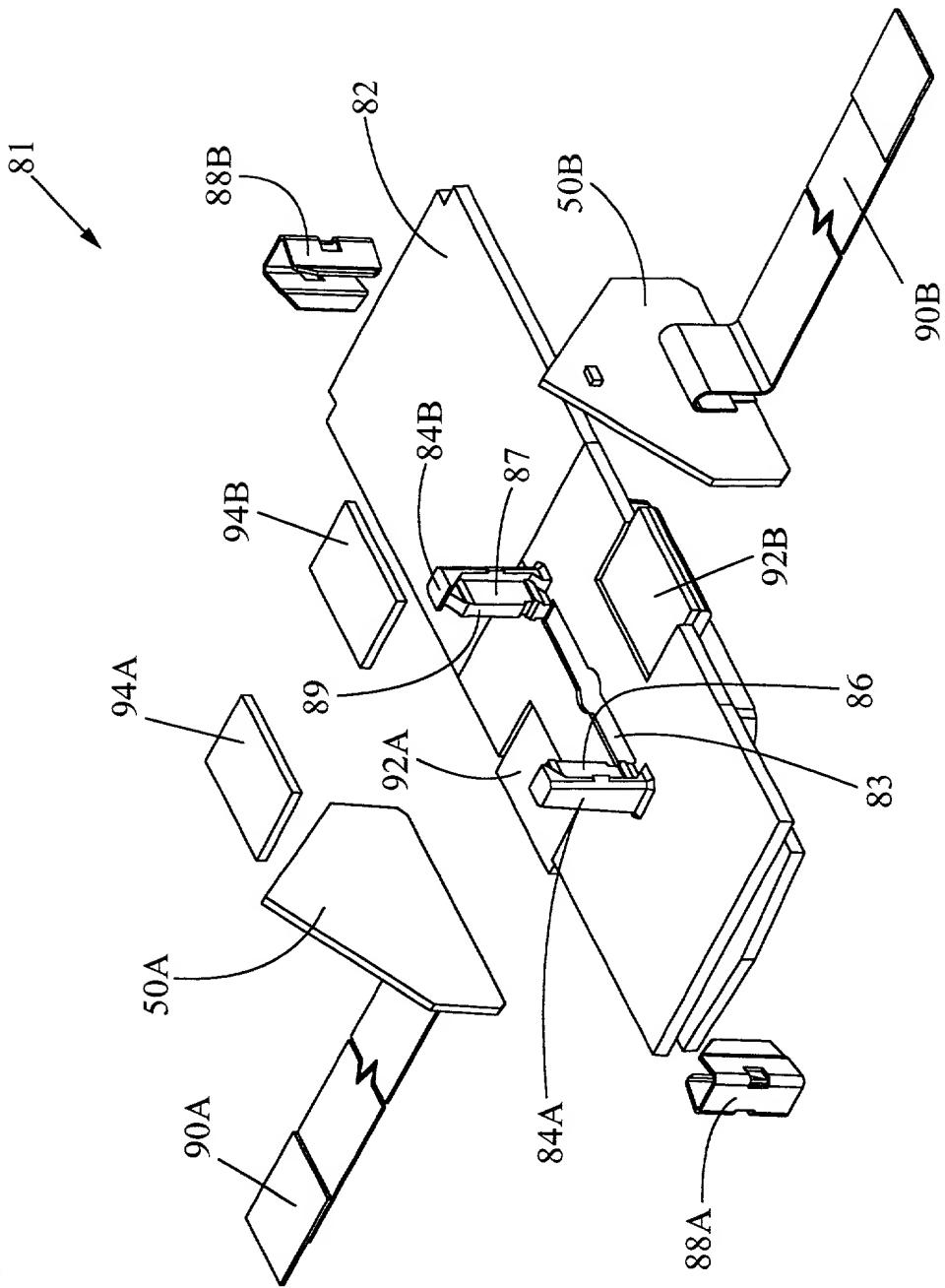


FIG. 9

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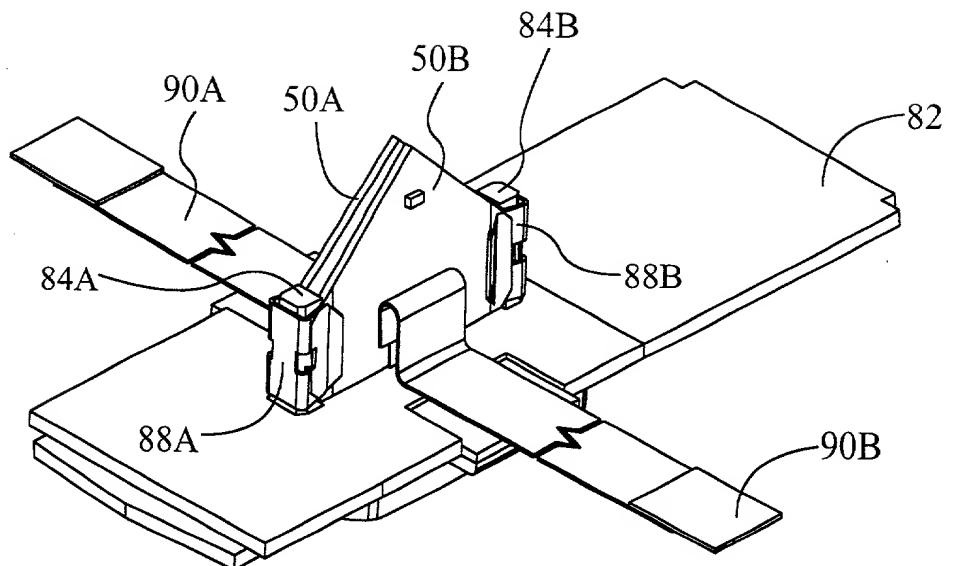


FIG. 10

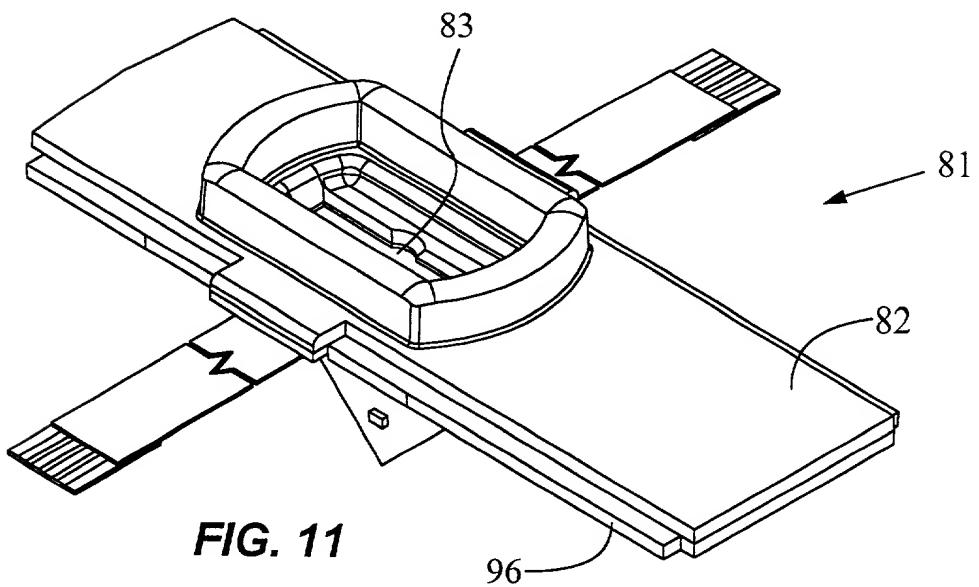


FIG. 11

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1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

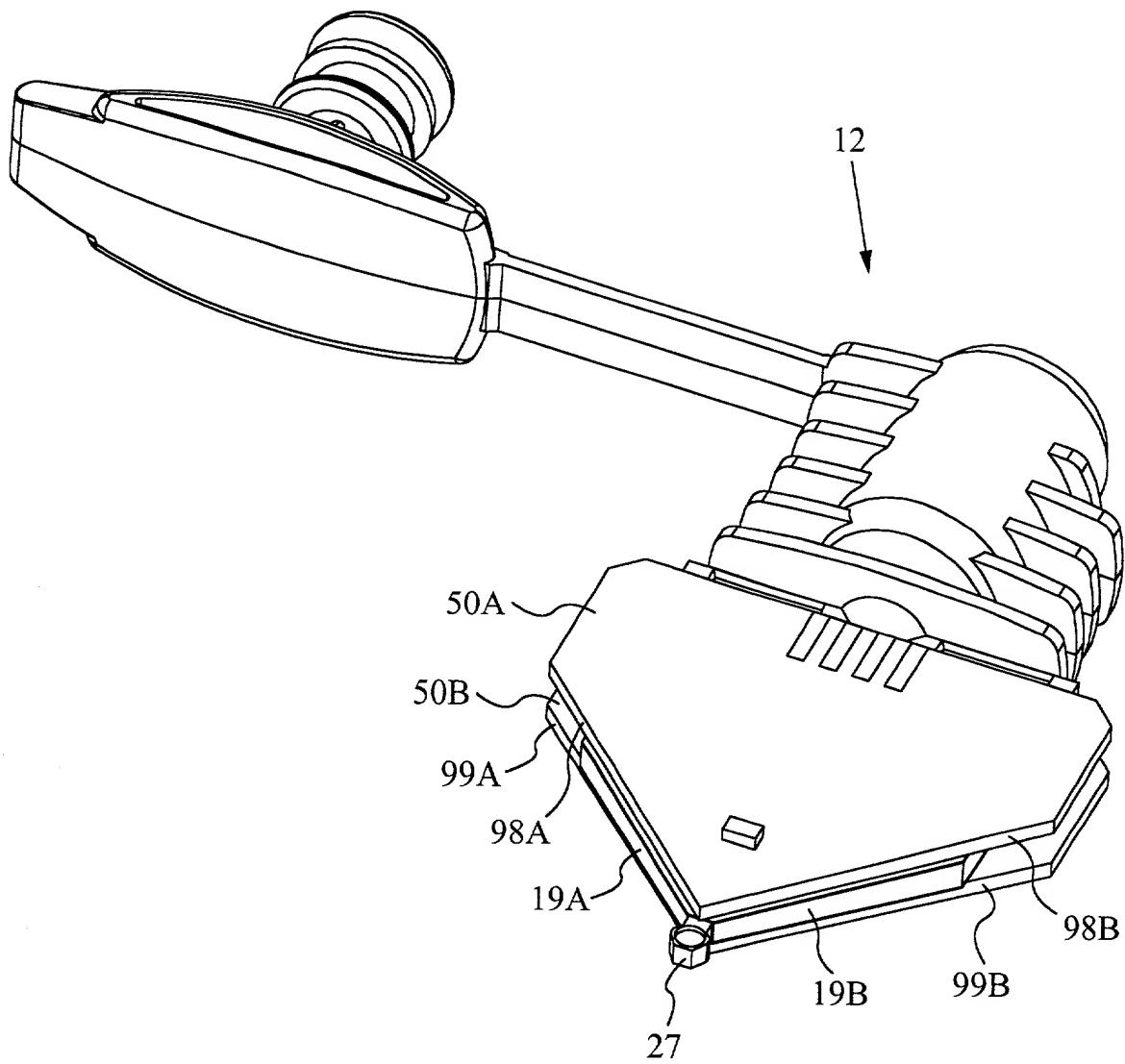


FIG. 12

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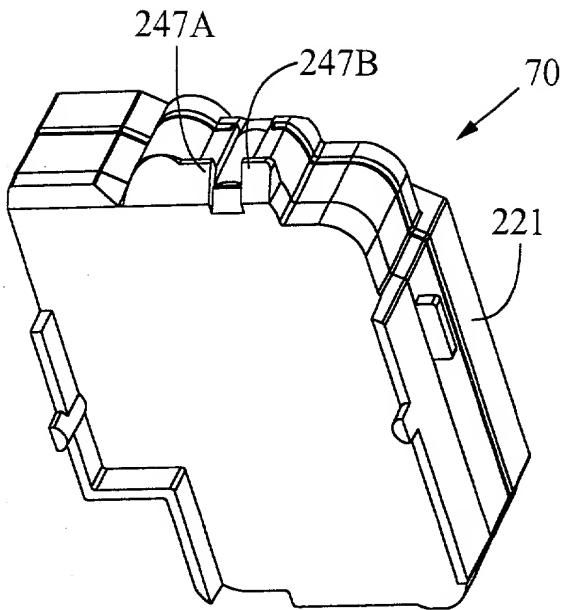


FIG. 13

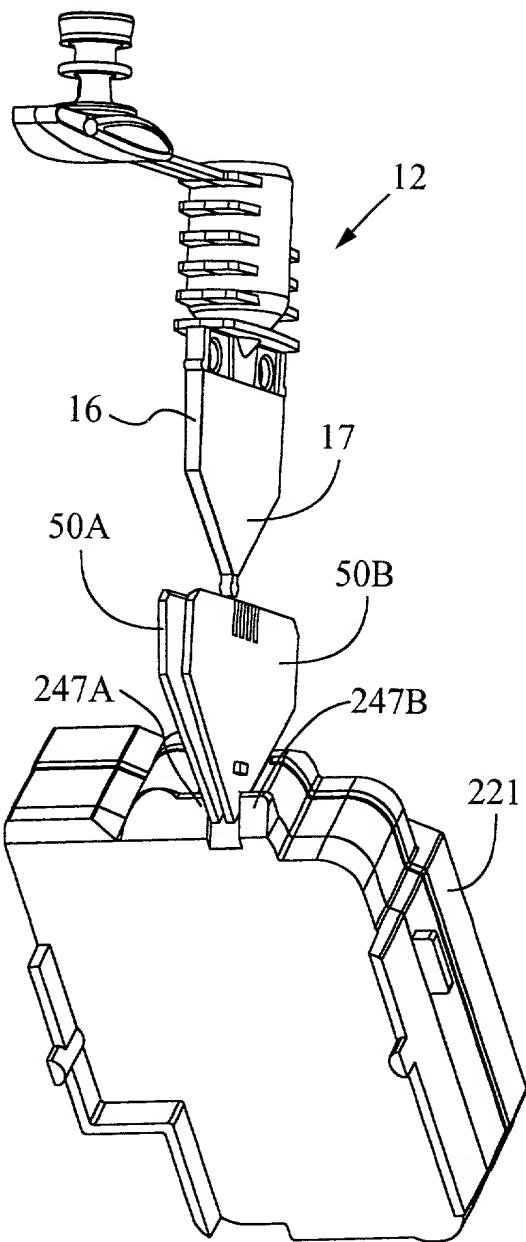
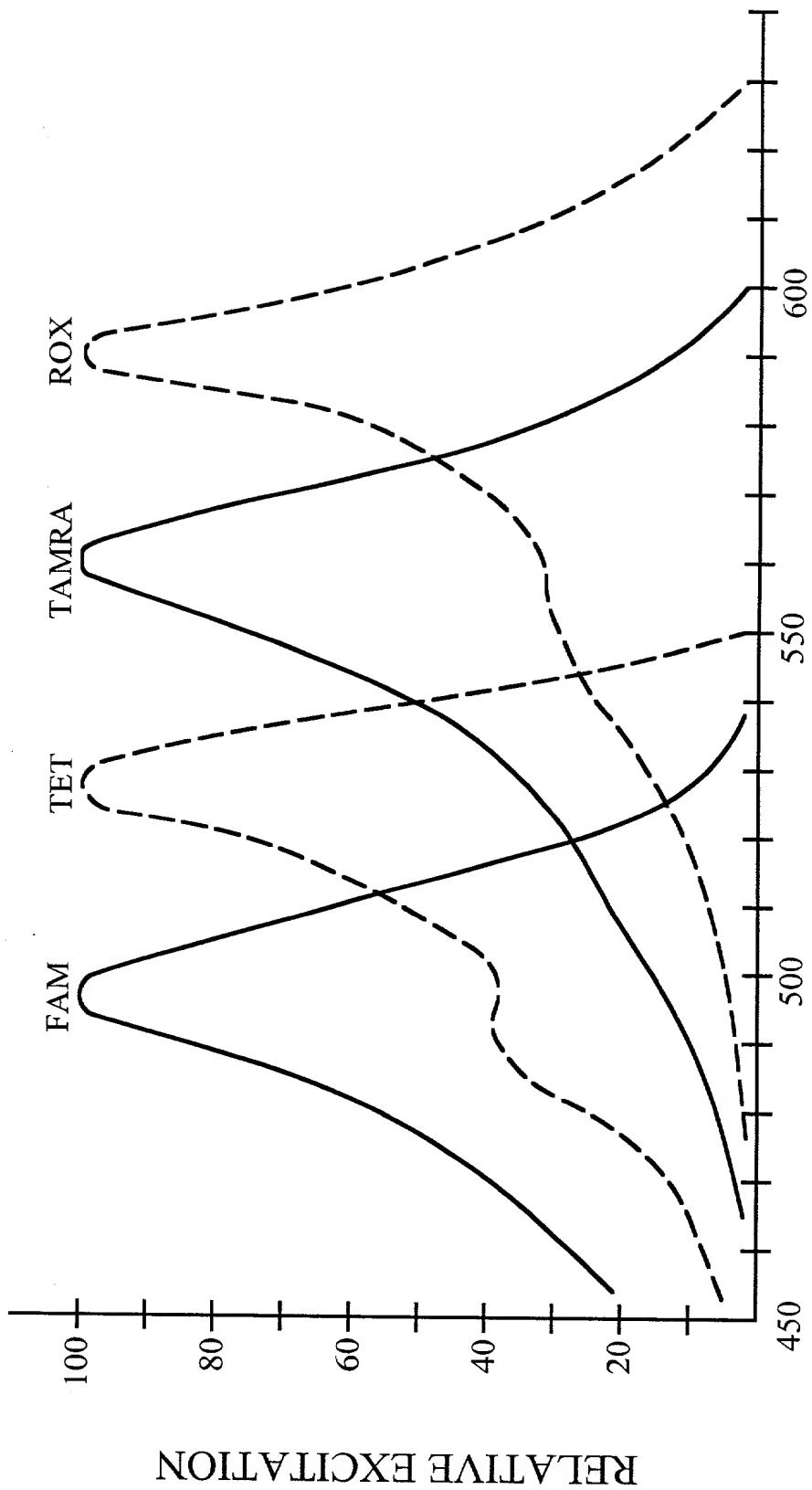


FIG. 14

Wavelengths: 450 nm, 500 nm, 550 nm, 600 nm



WAVELENGTH (nm)

FIG. 15A

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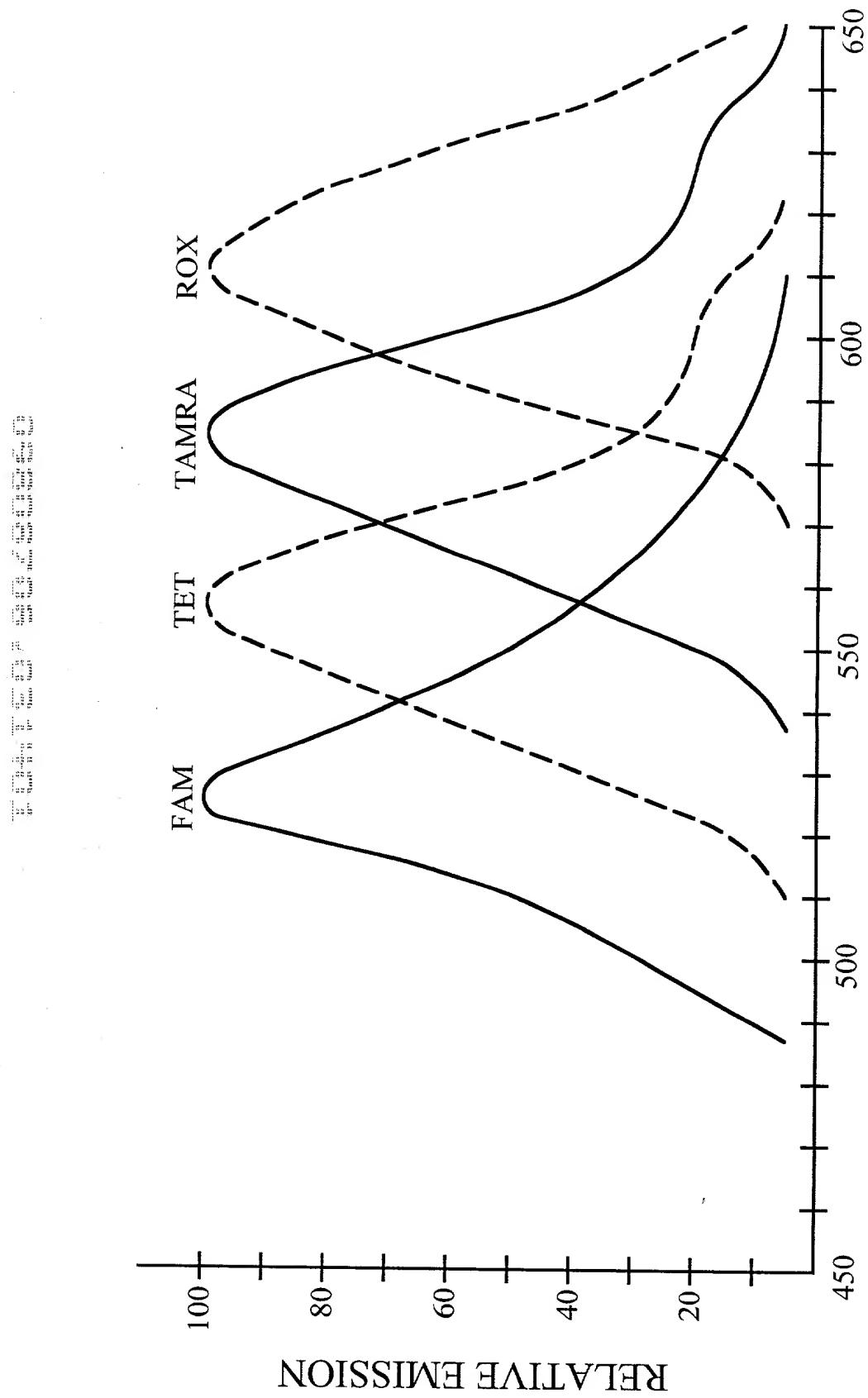


FIG. 15B

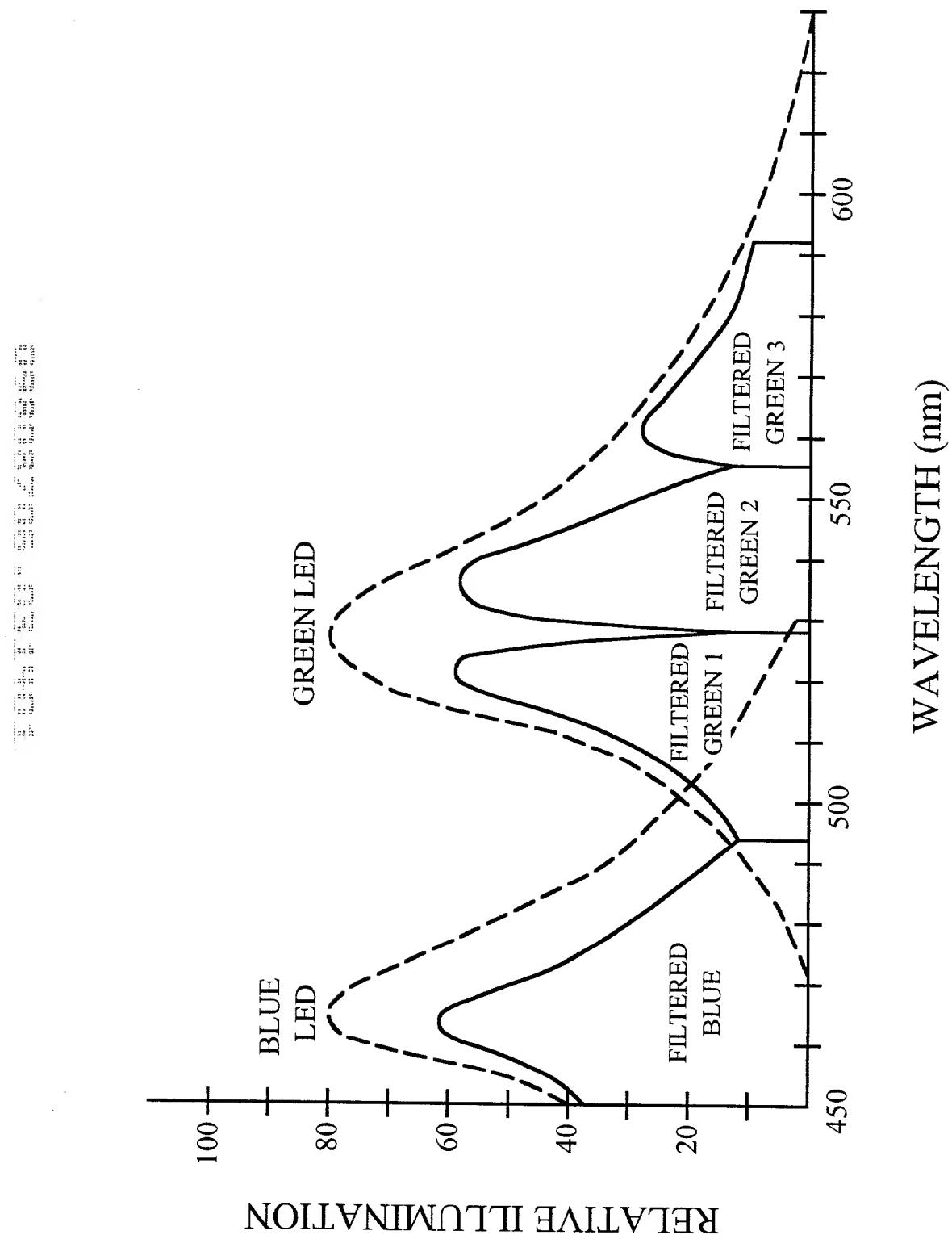


FIG. 15C

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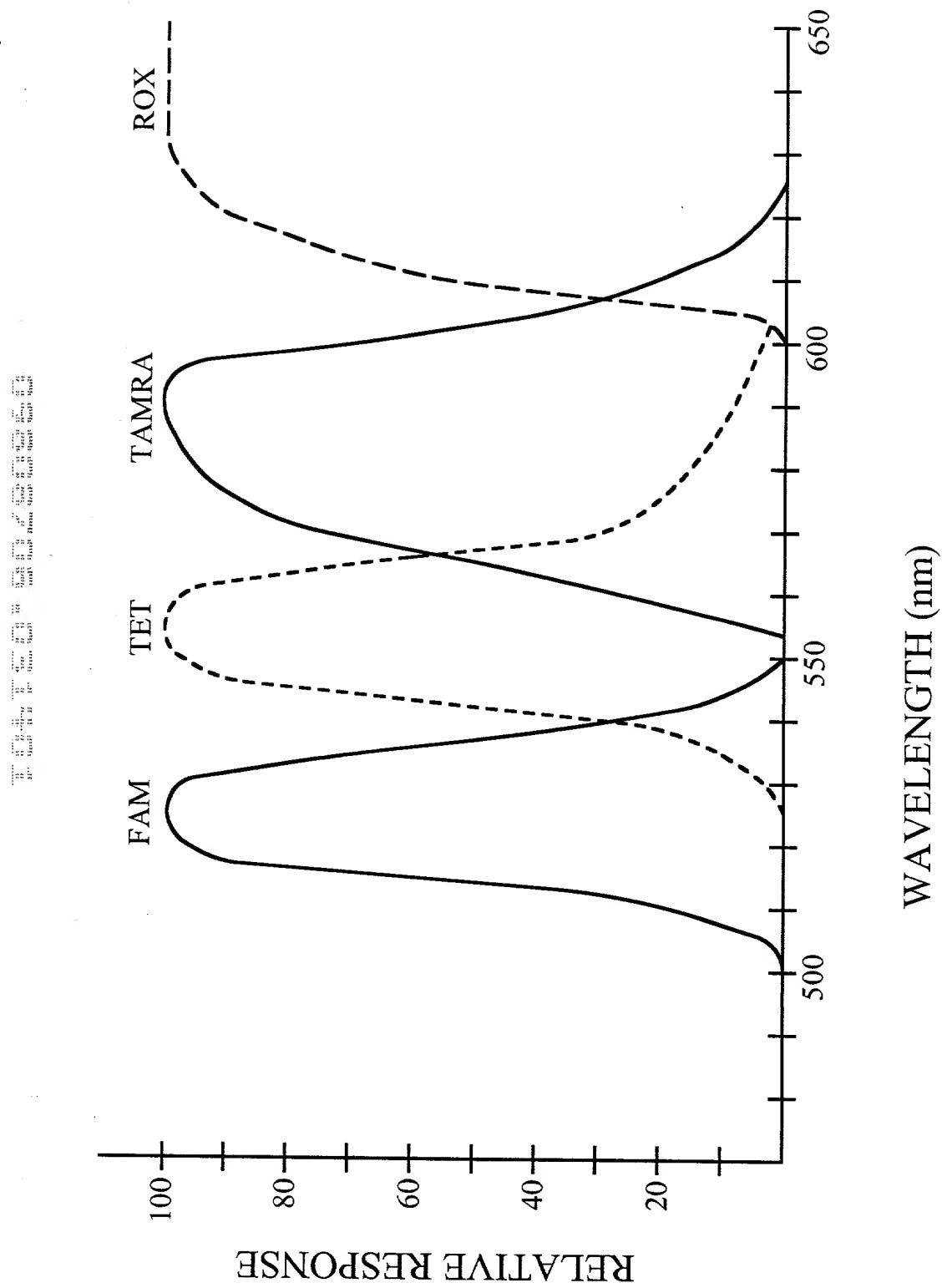


FIG. 15D

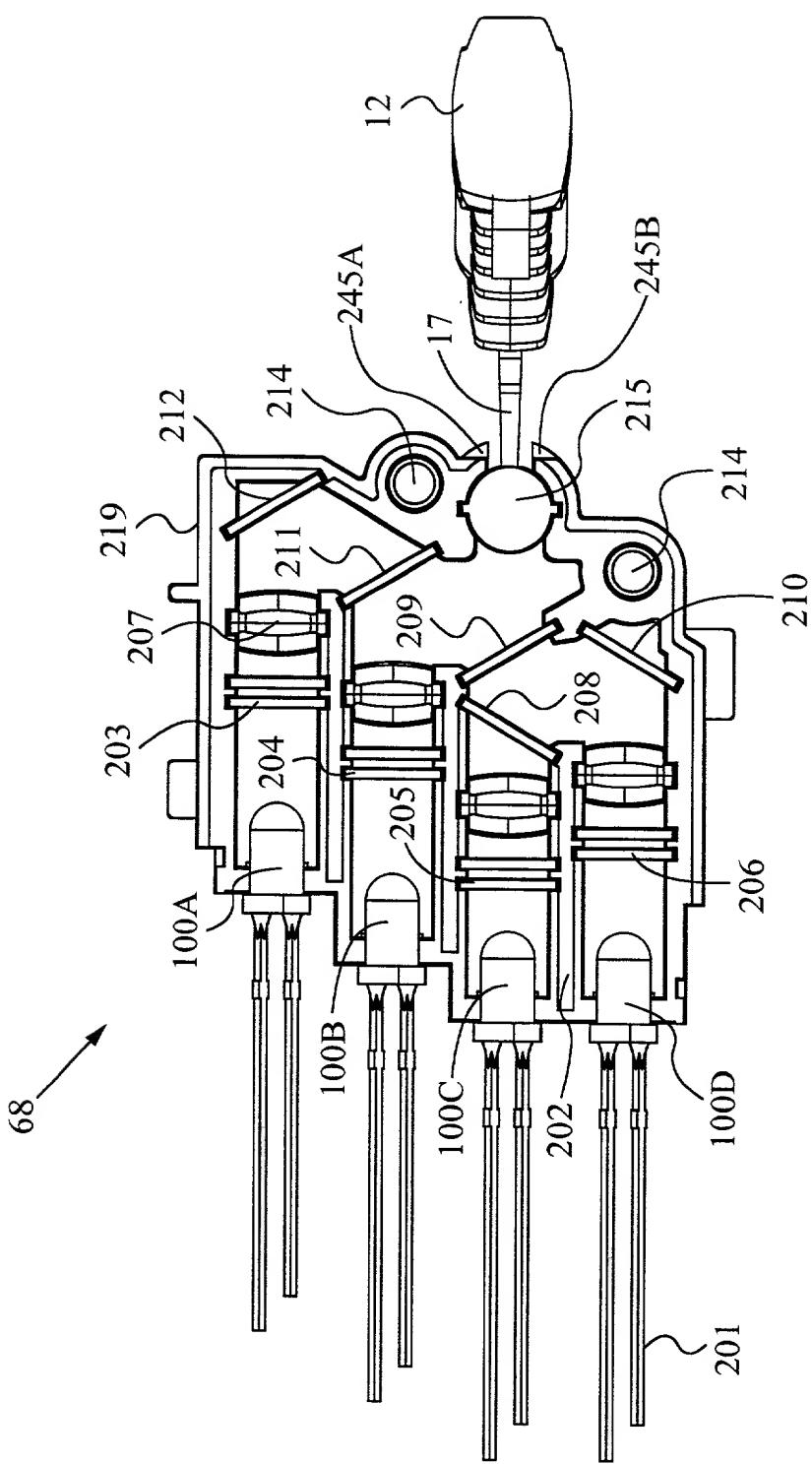


FIG. 16

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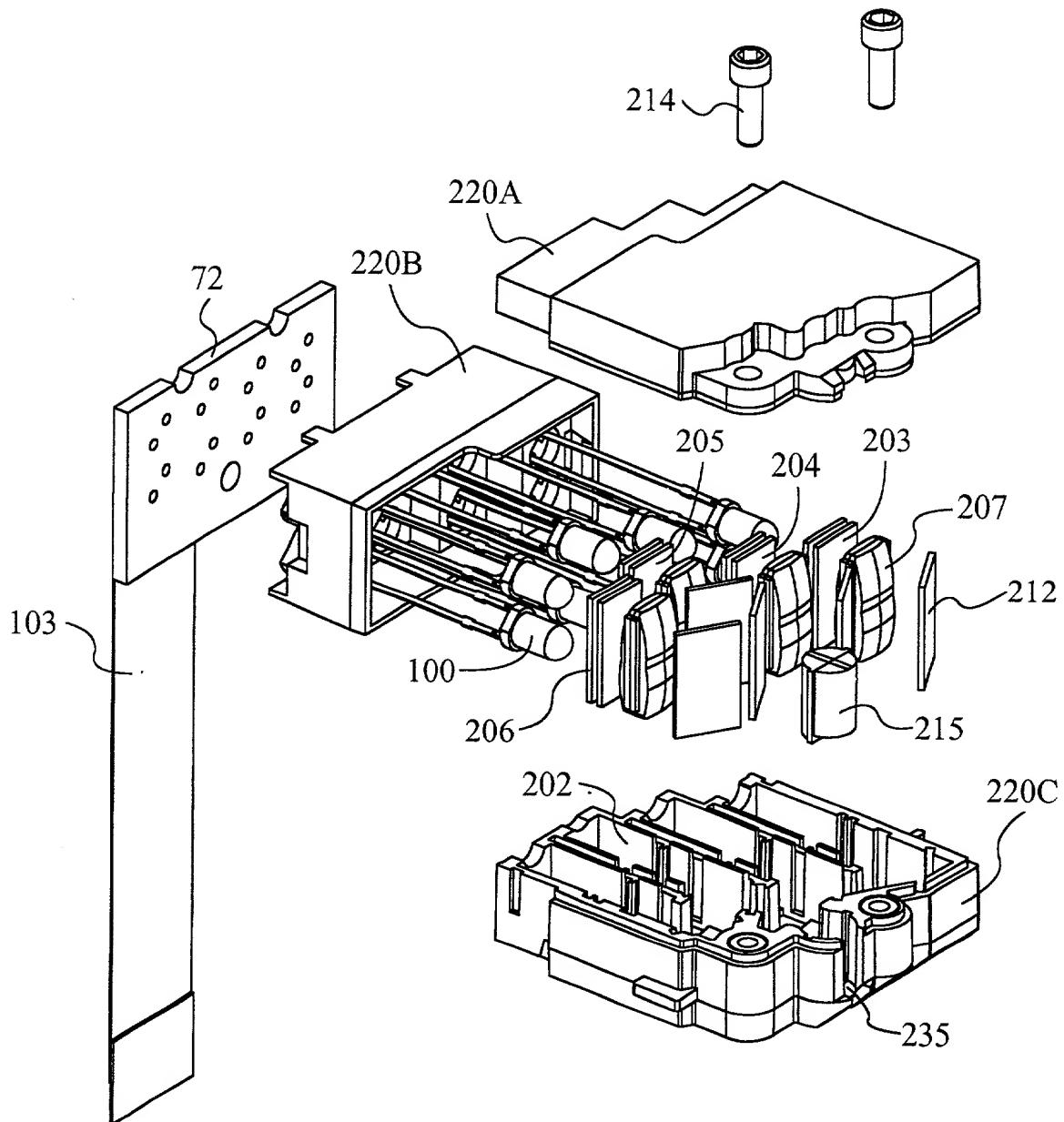


FIG. 17

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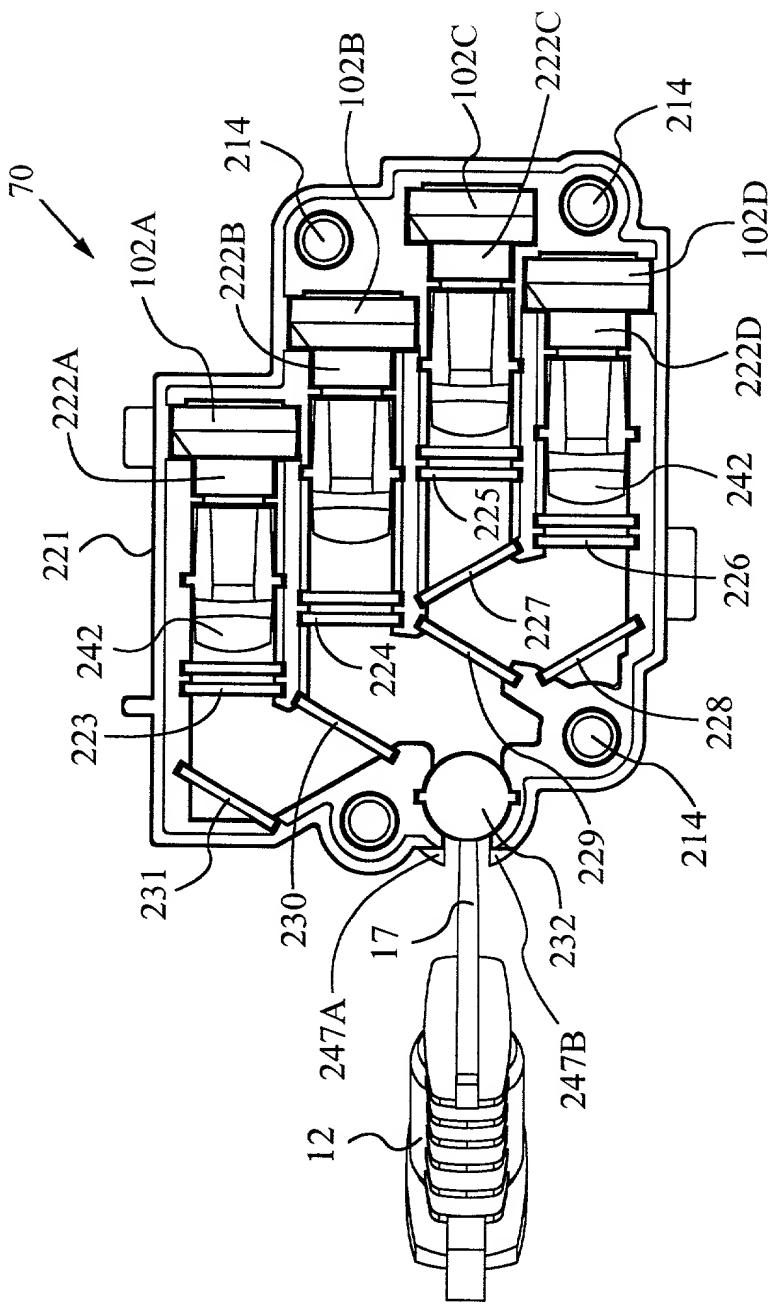


FIG. 18

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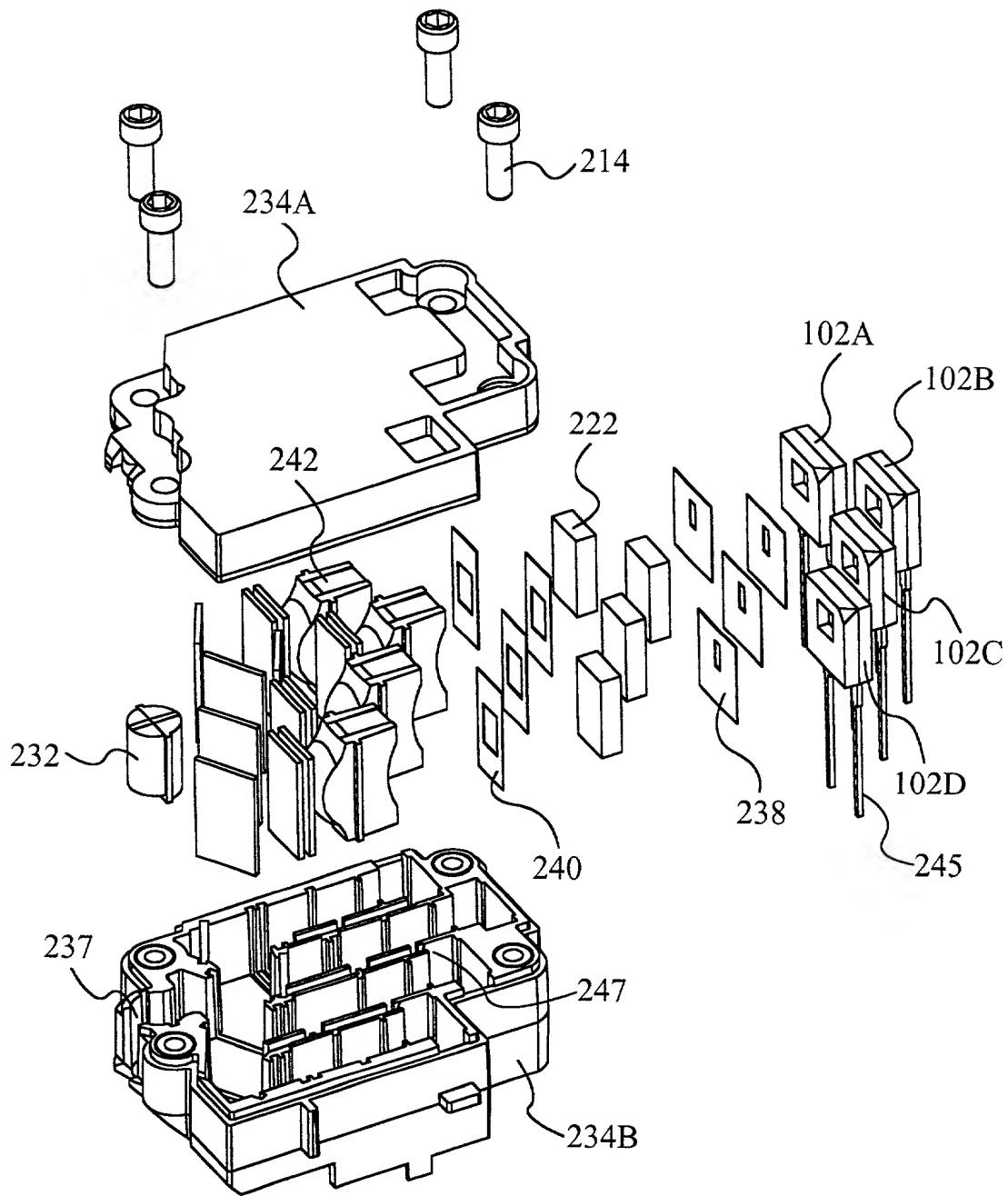


FIG. 19

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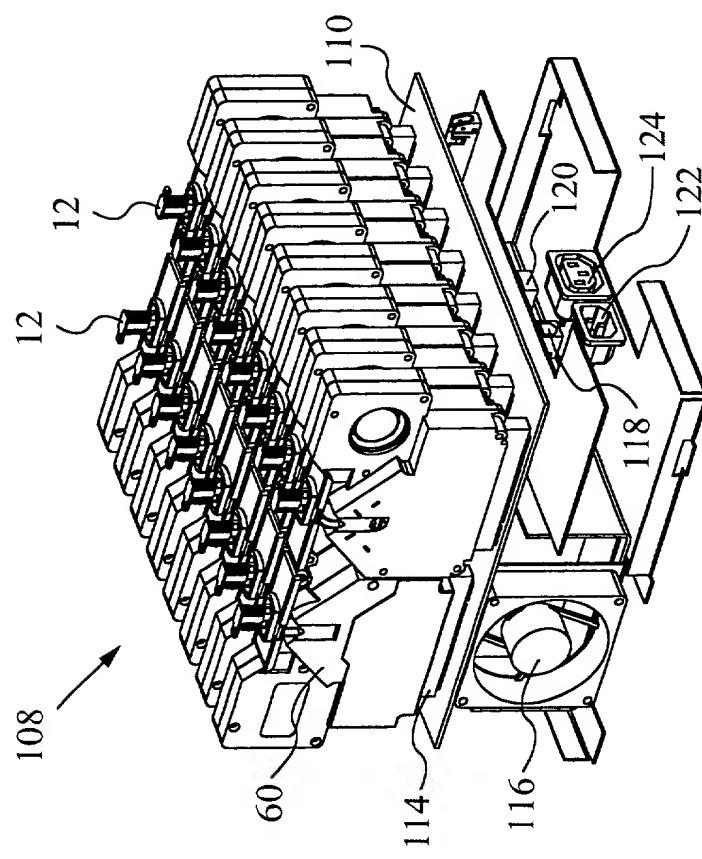
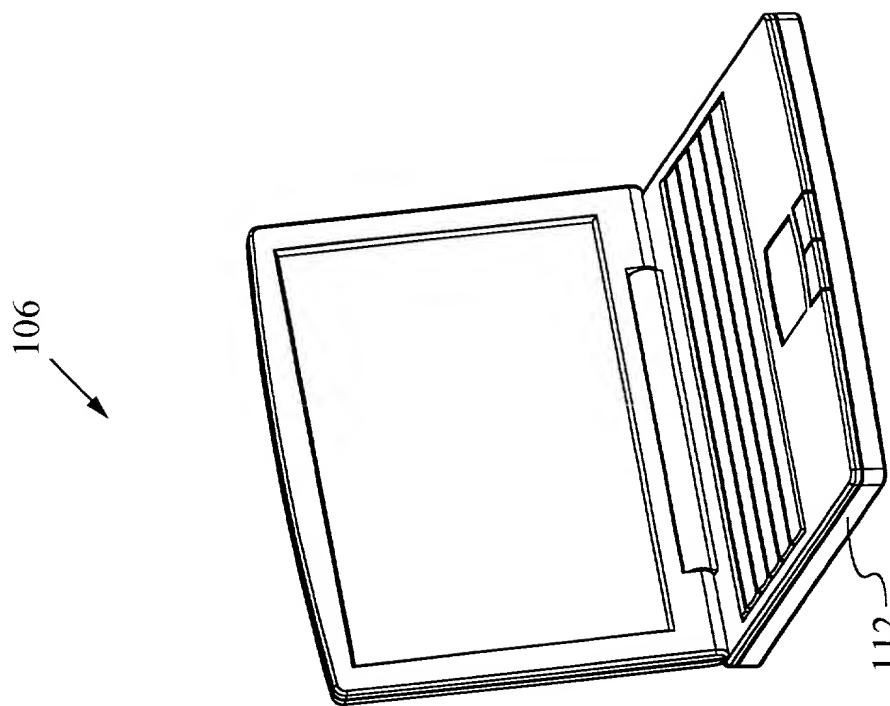


FIG. 20

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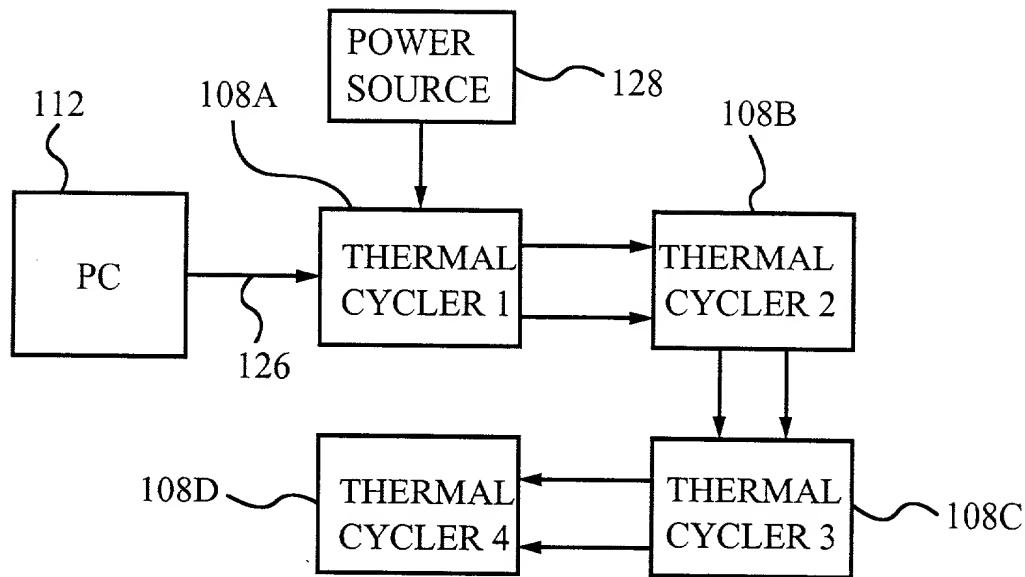


FIG. 21

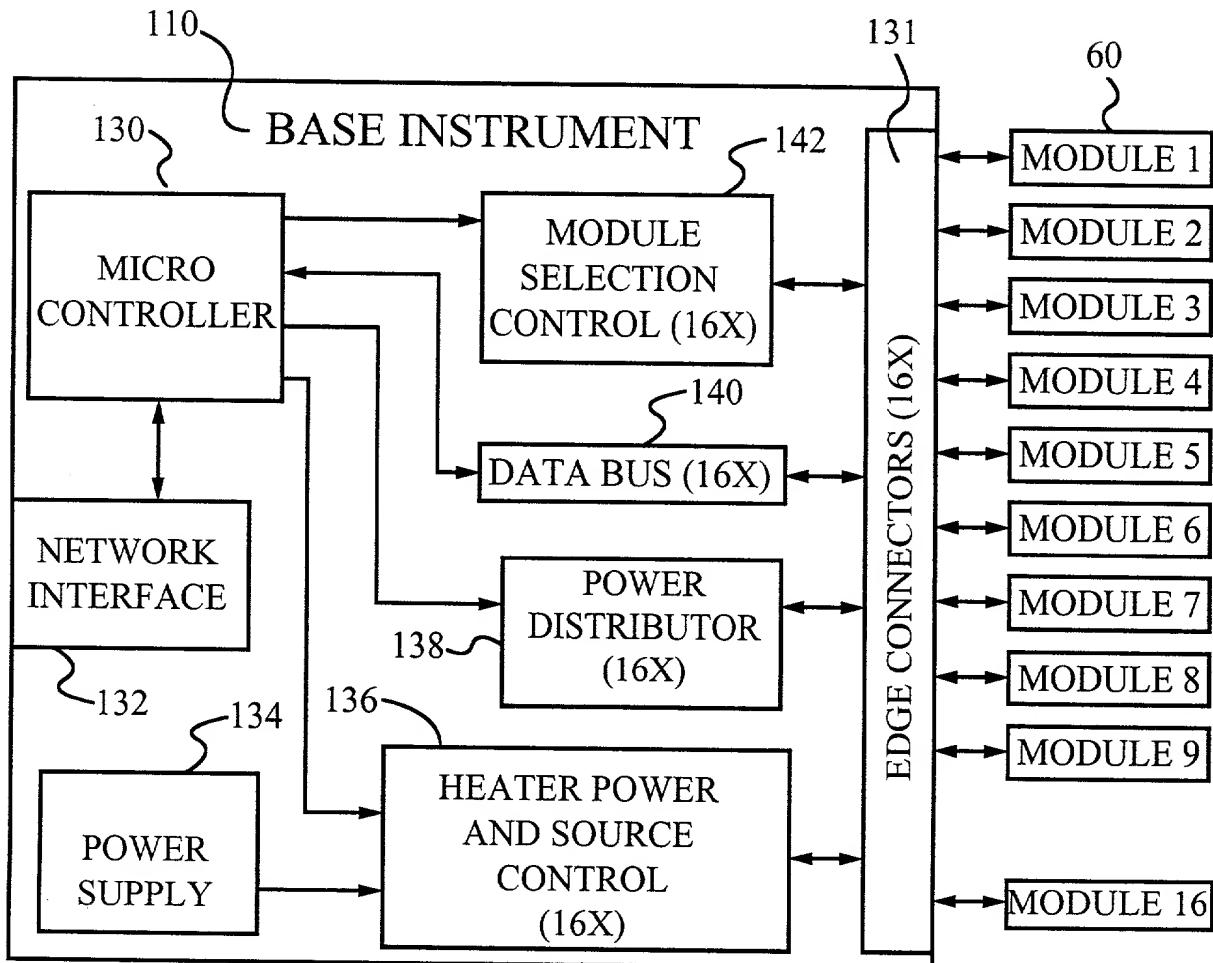


FIG. 22

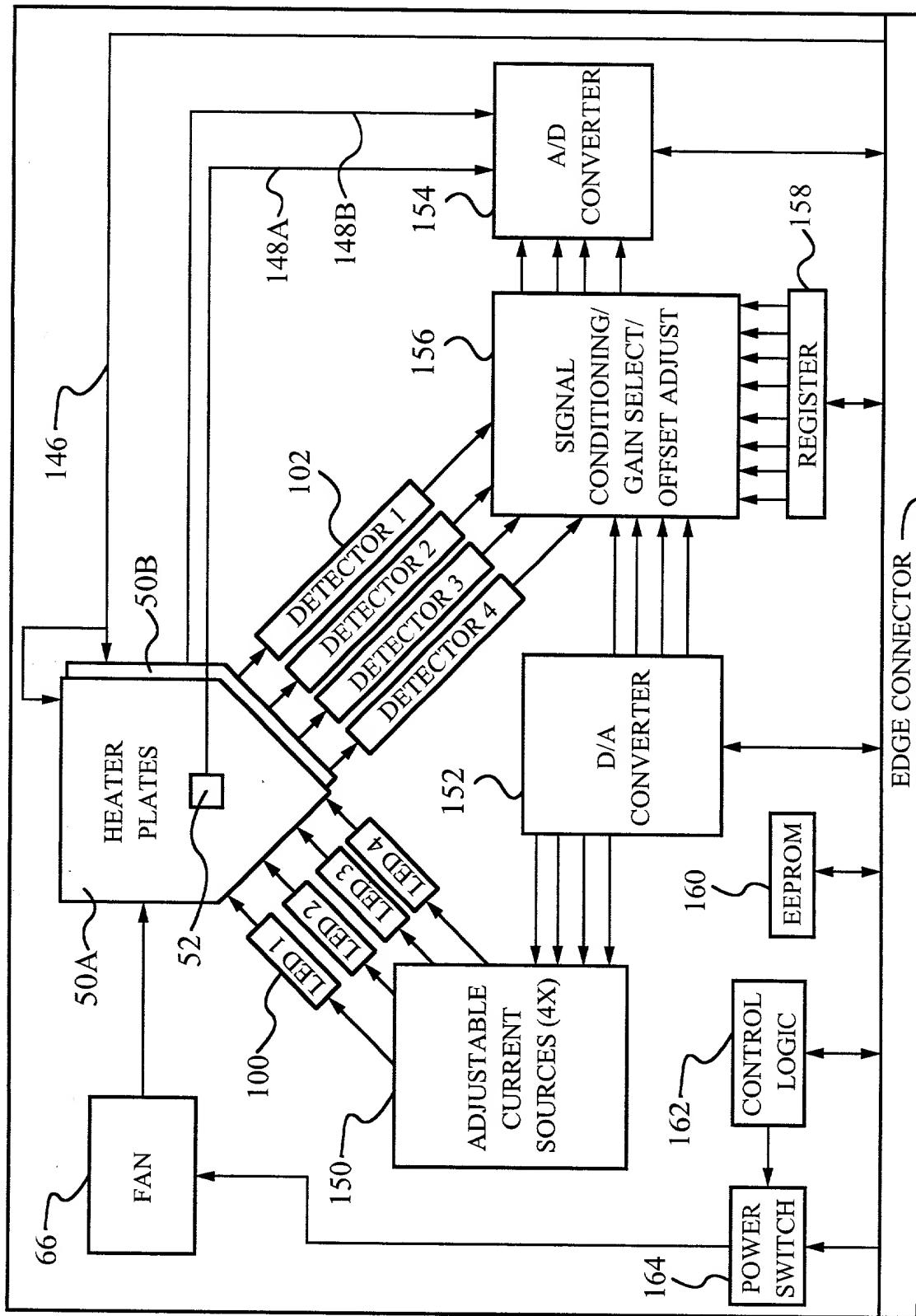


FIG. 23

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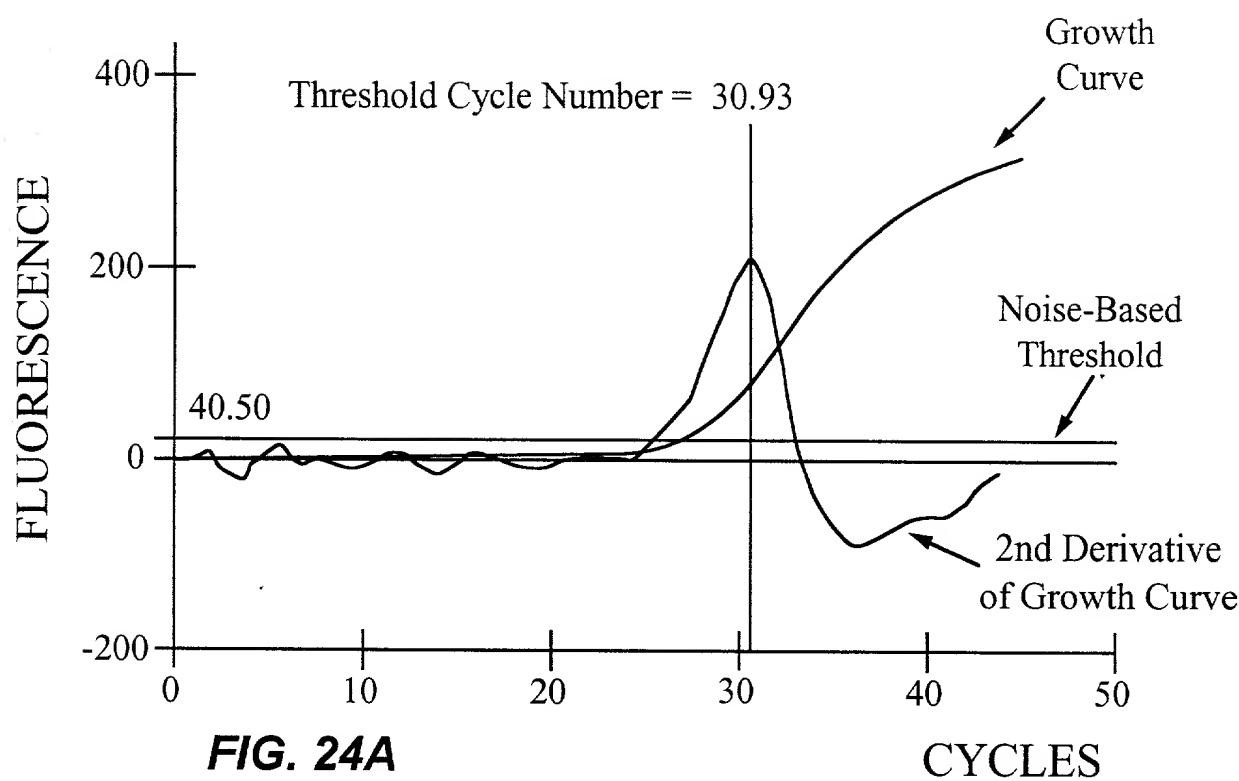


FIG. 24A

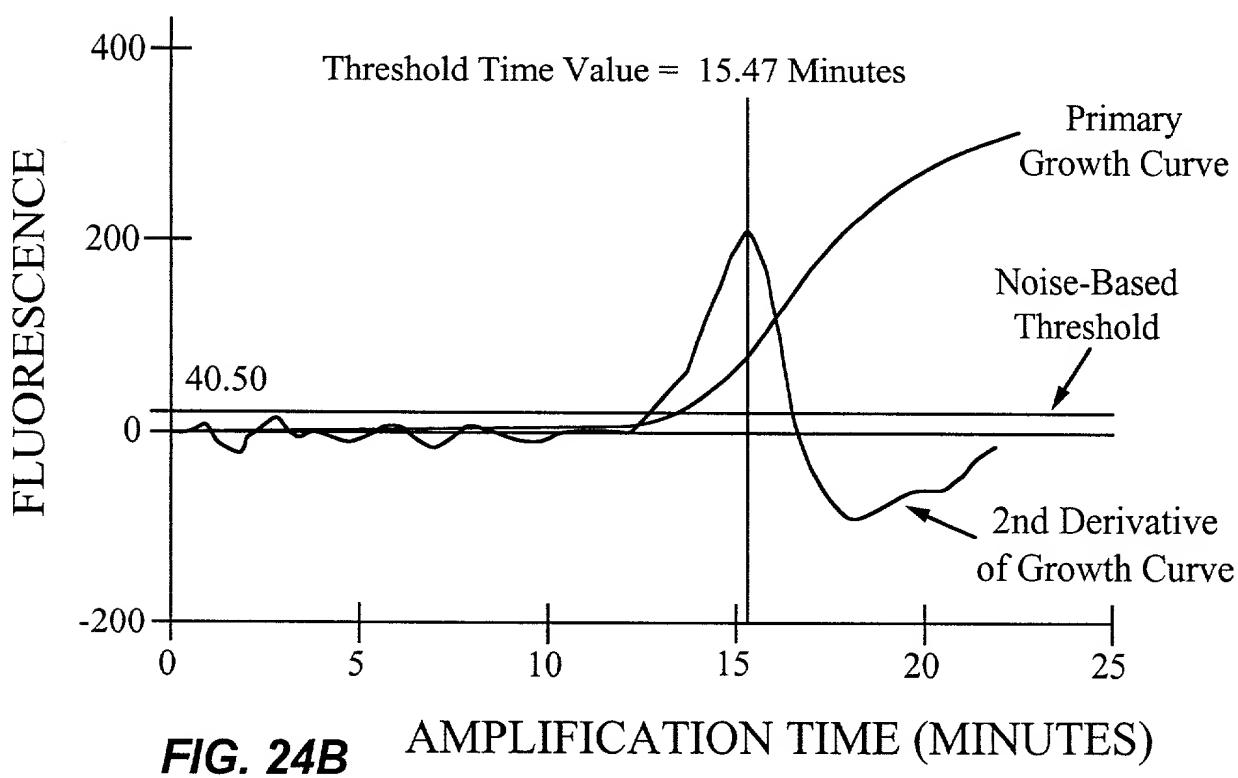


FIG. 24B

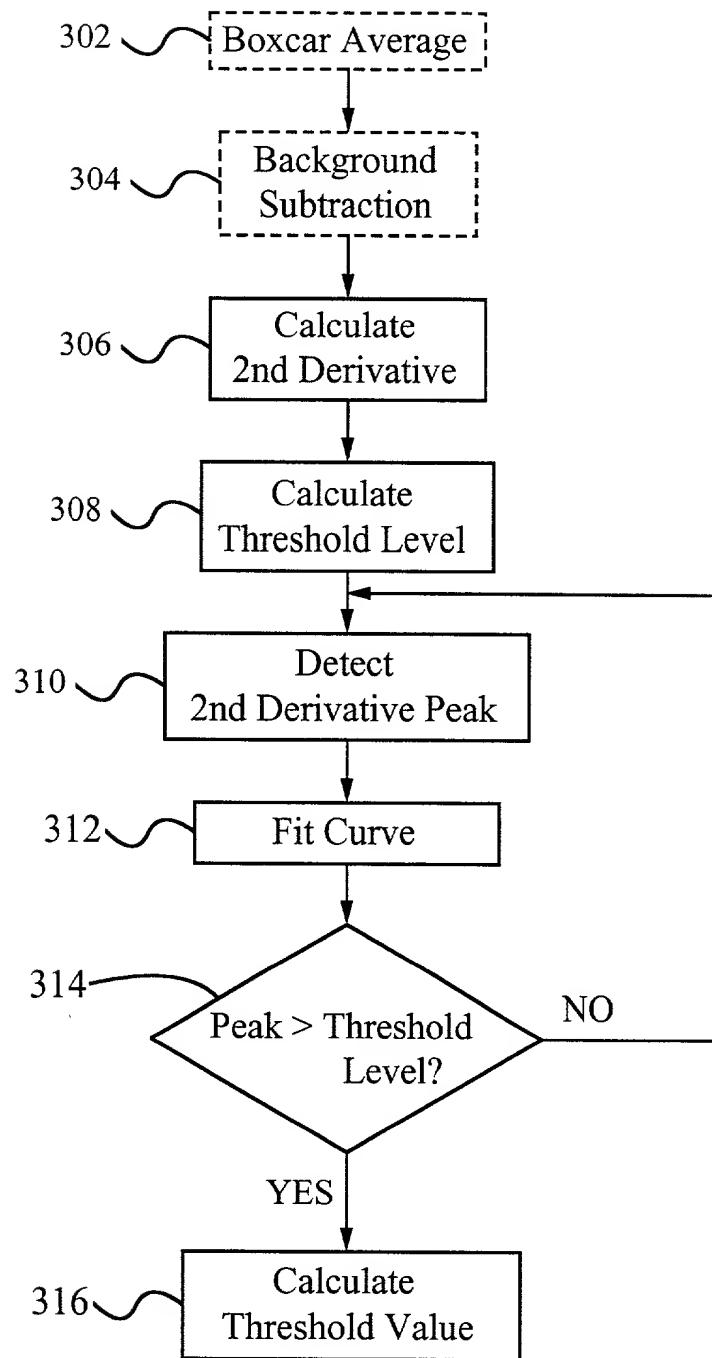


FIG. 25

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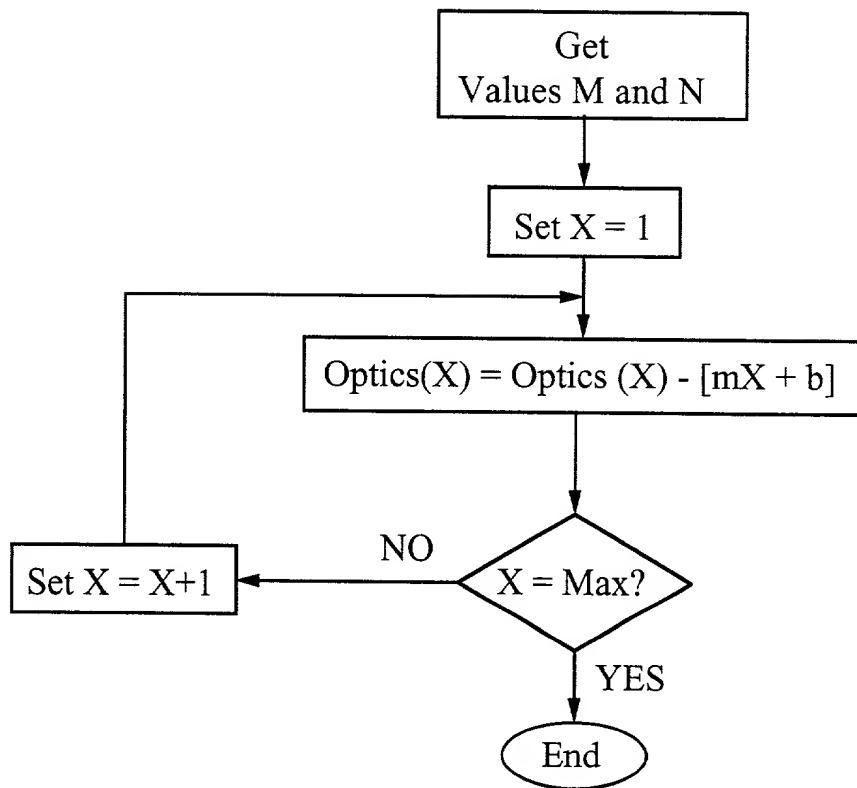


FIG. 26

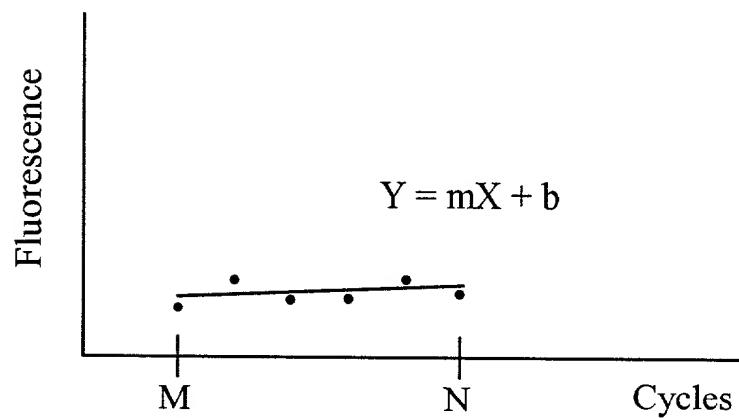


FIG. 27

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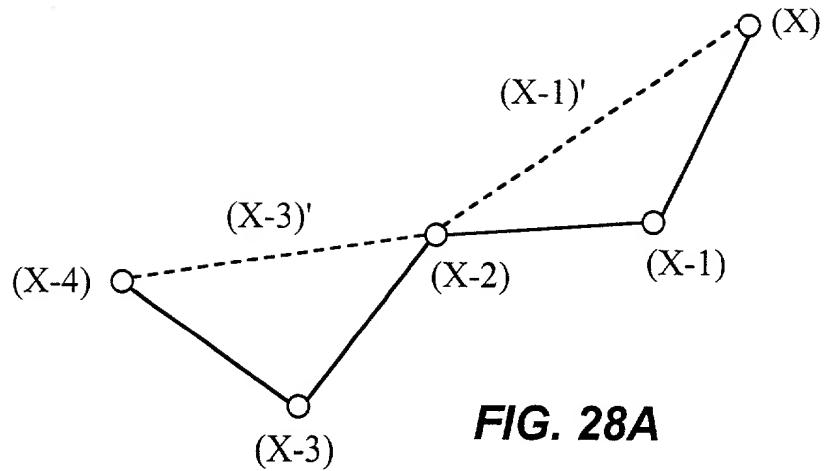


FIG. 28A

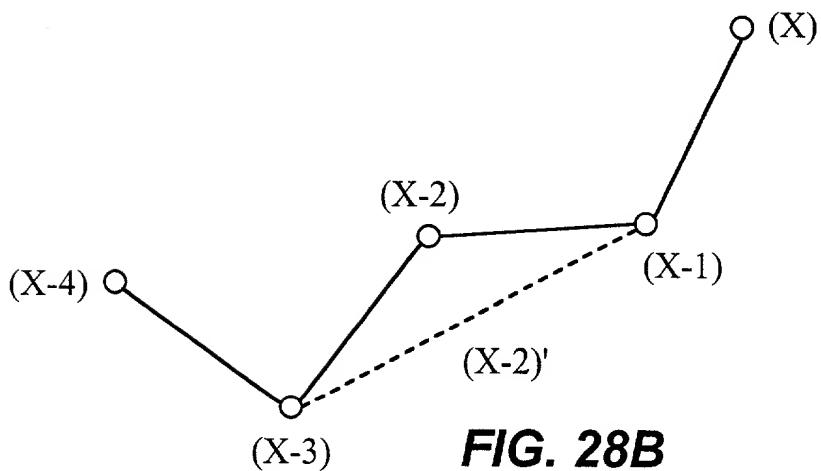


FIG. 28B

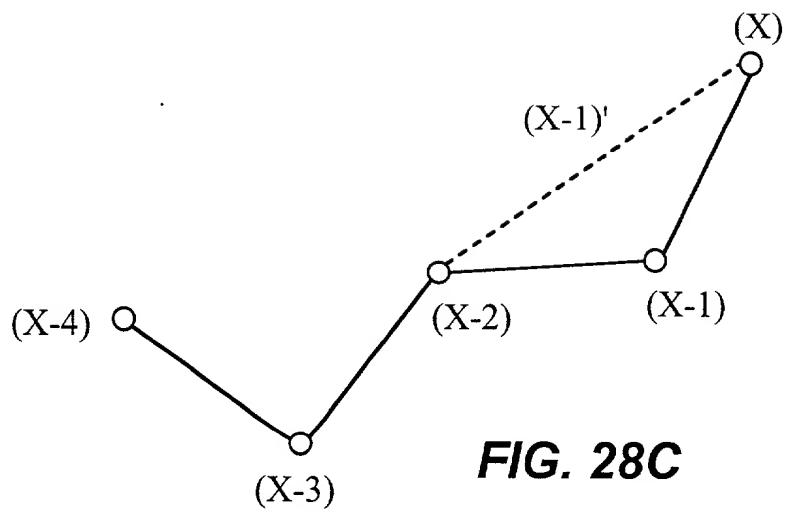
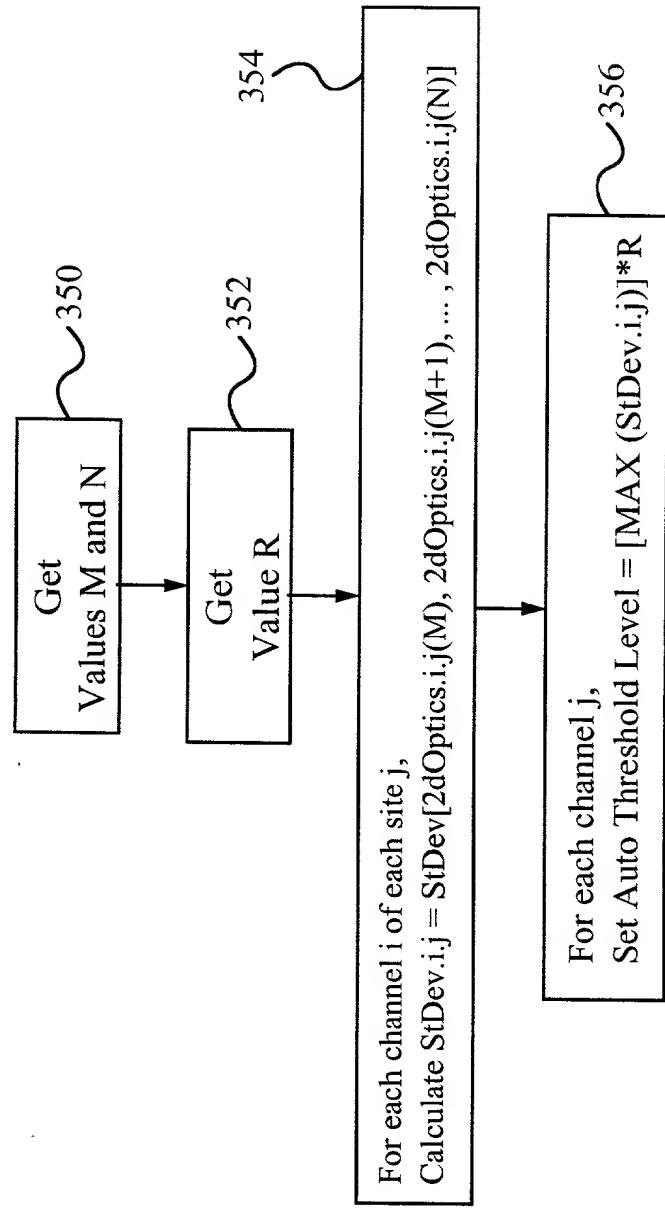


FIG. 28C

**FIG. 29**

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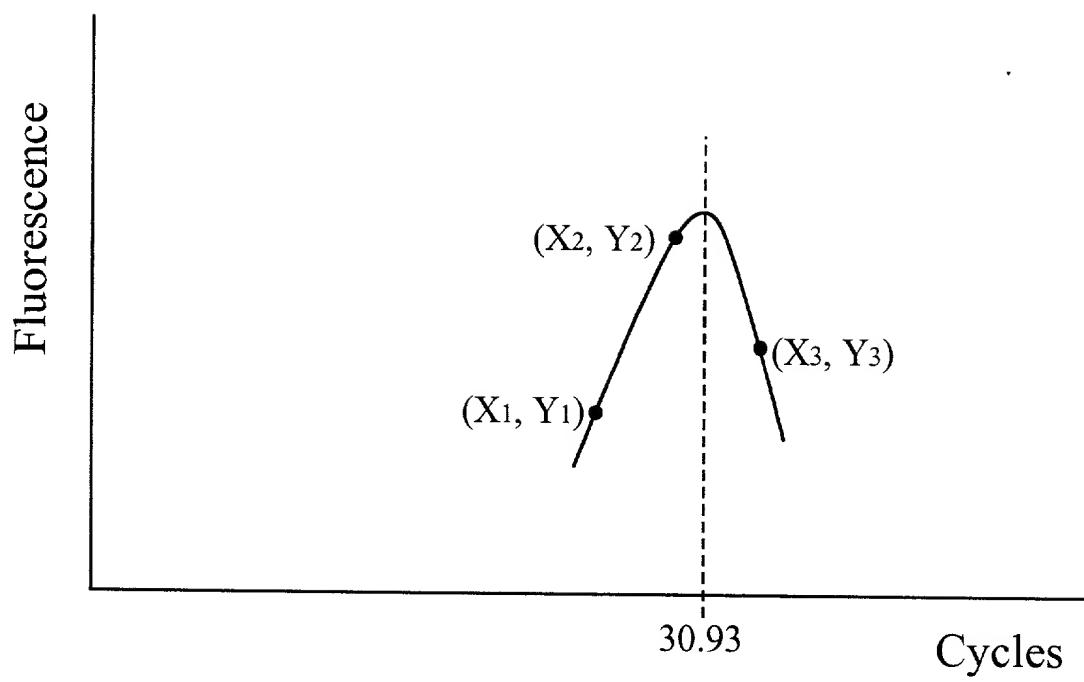


FIG. 30

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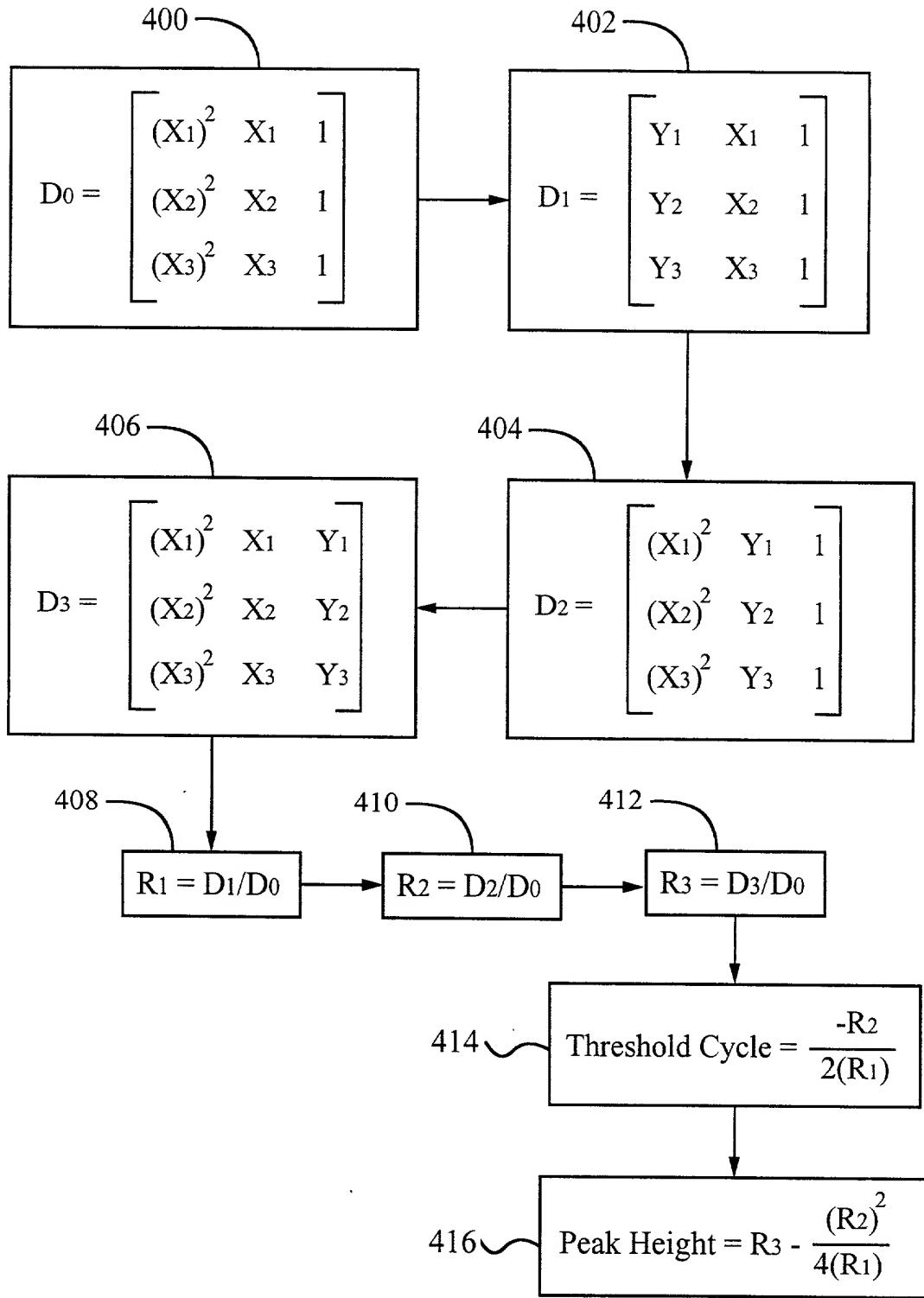


FIG. 31

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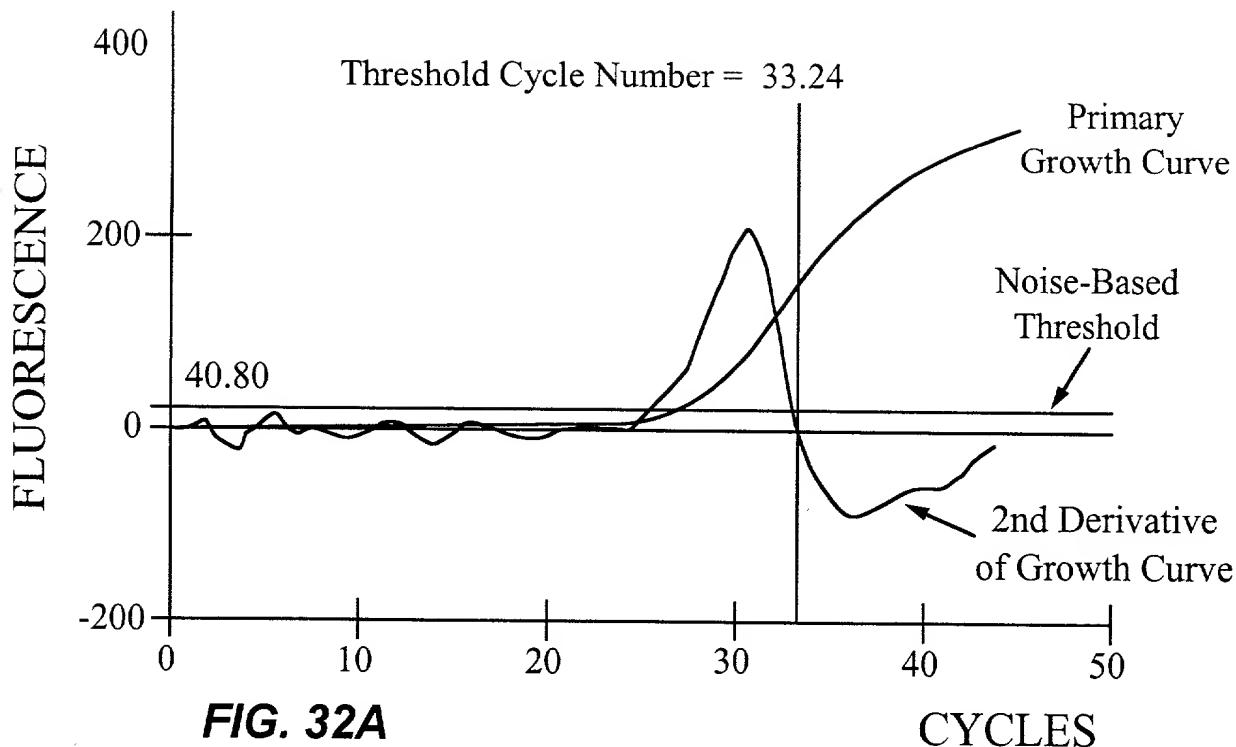


FIG. 32A

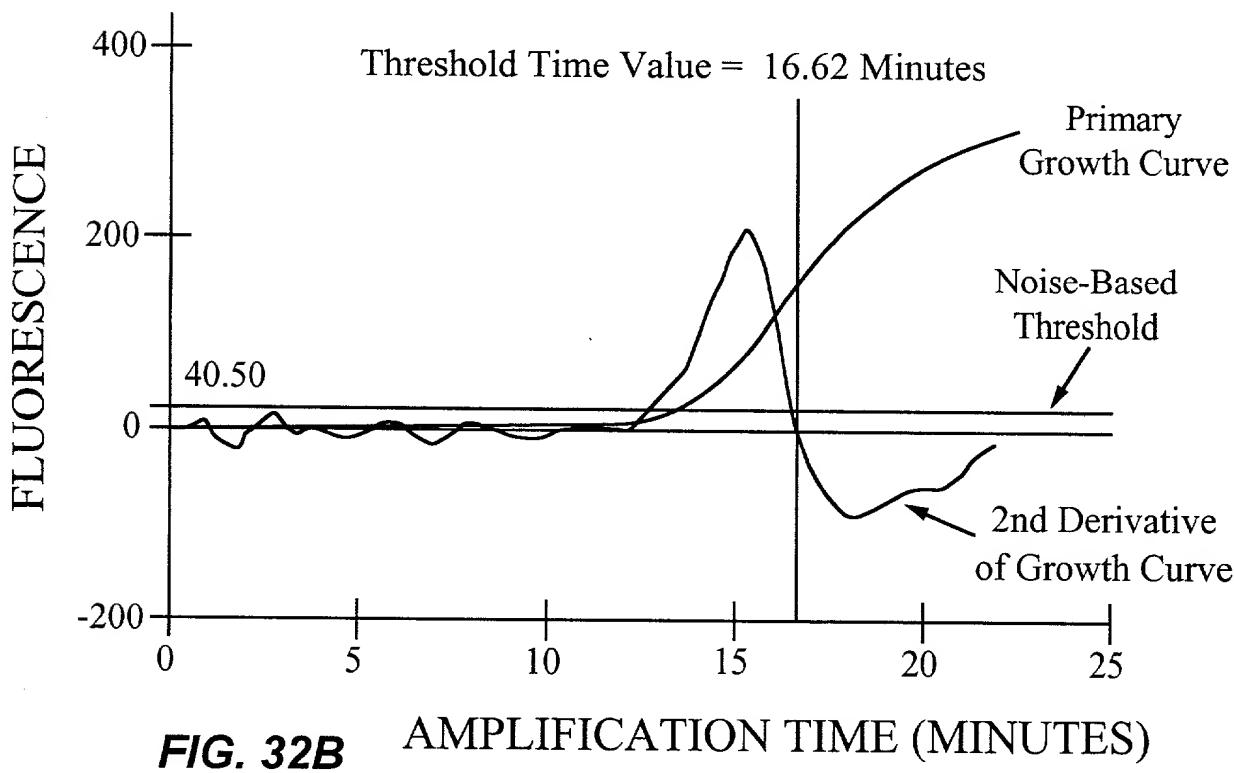


FIG. 32B

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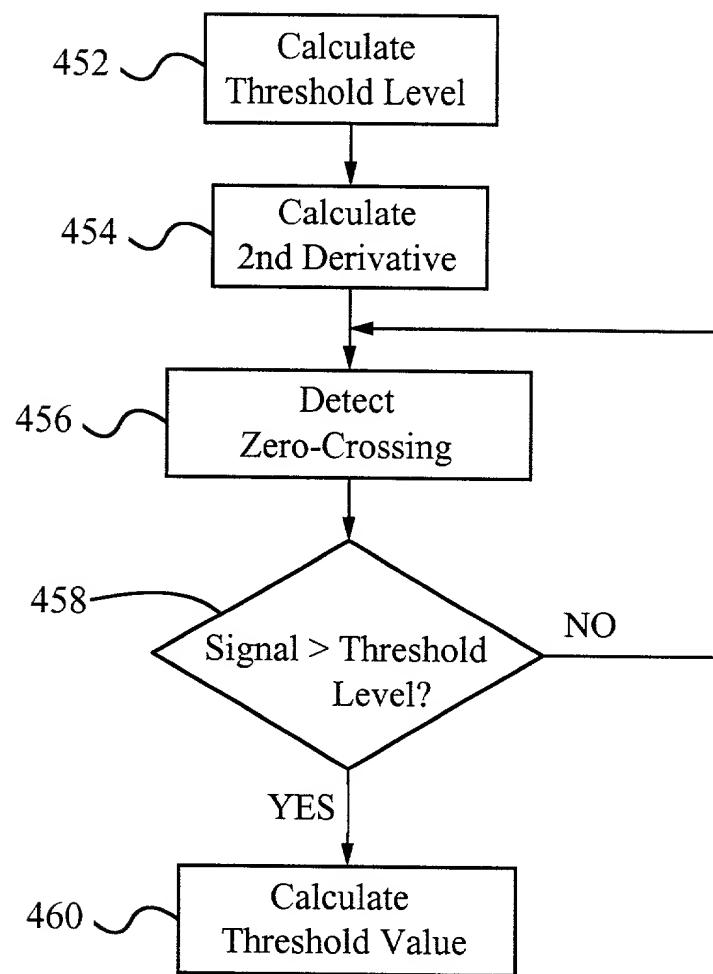


FIG. 33

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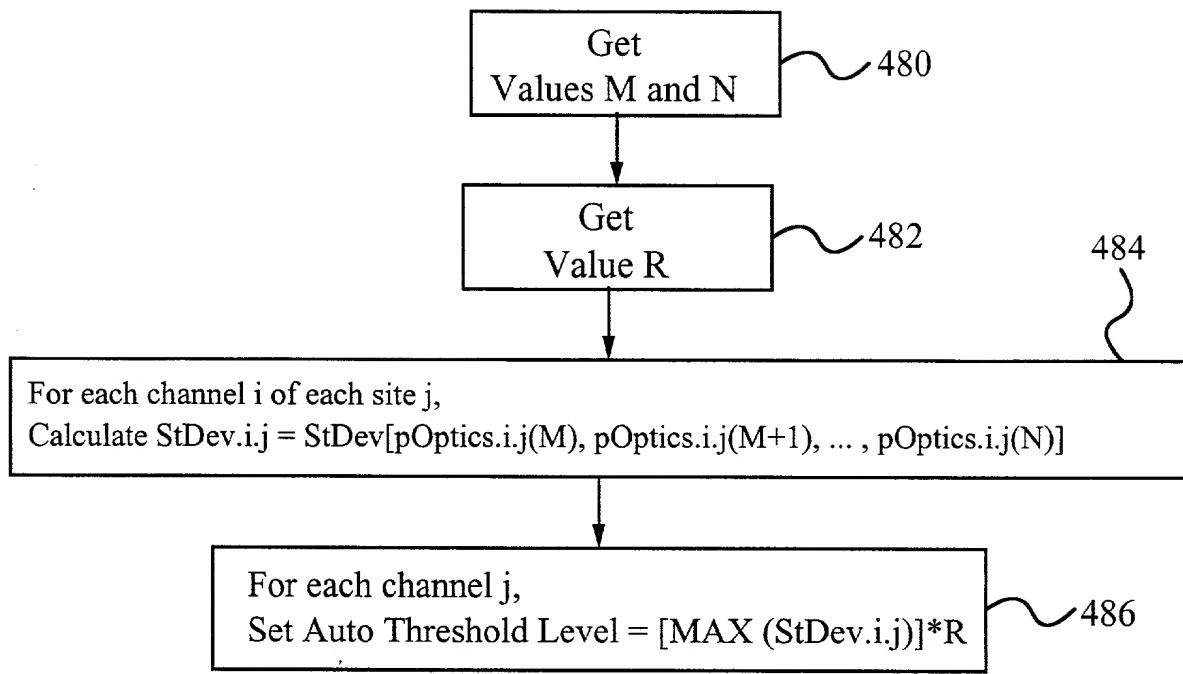
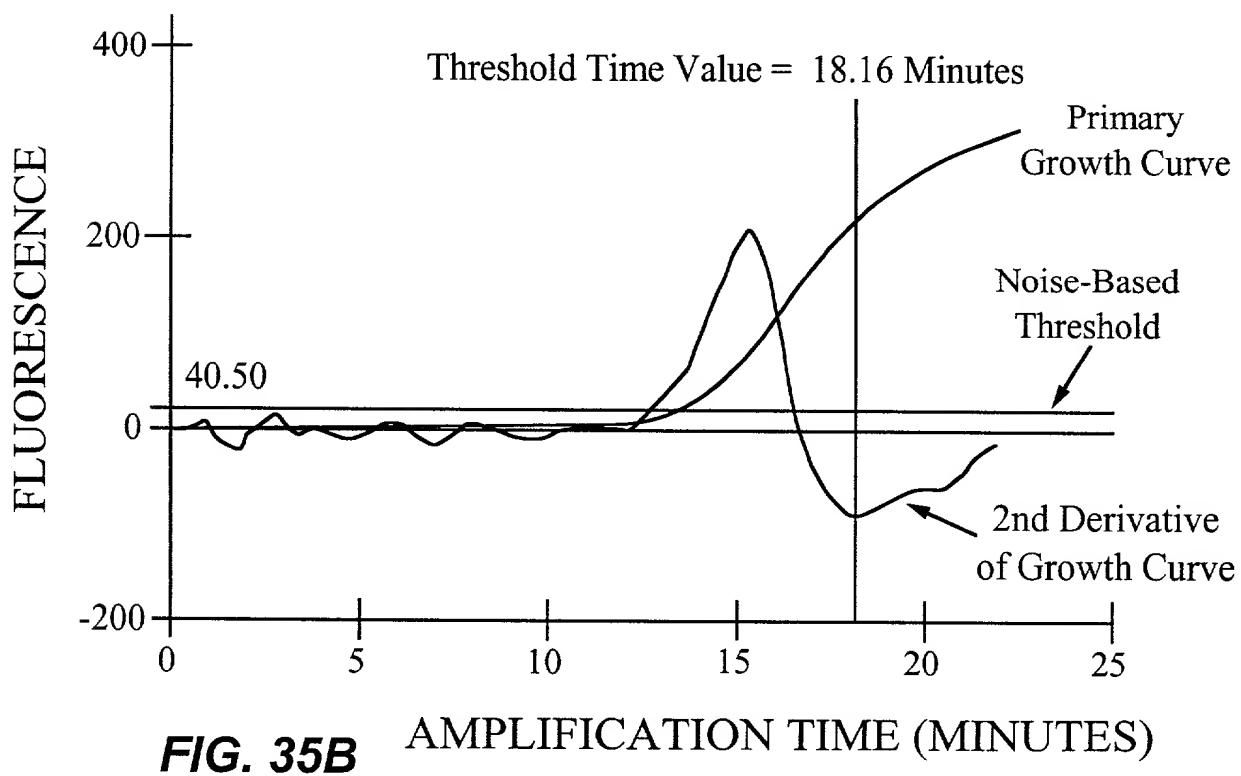
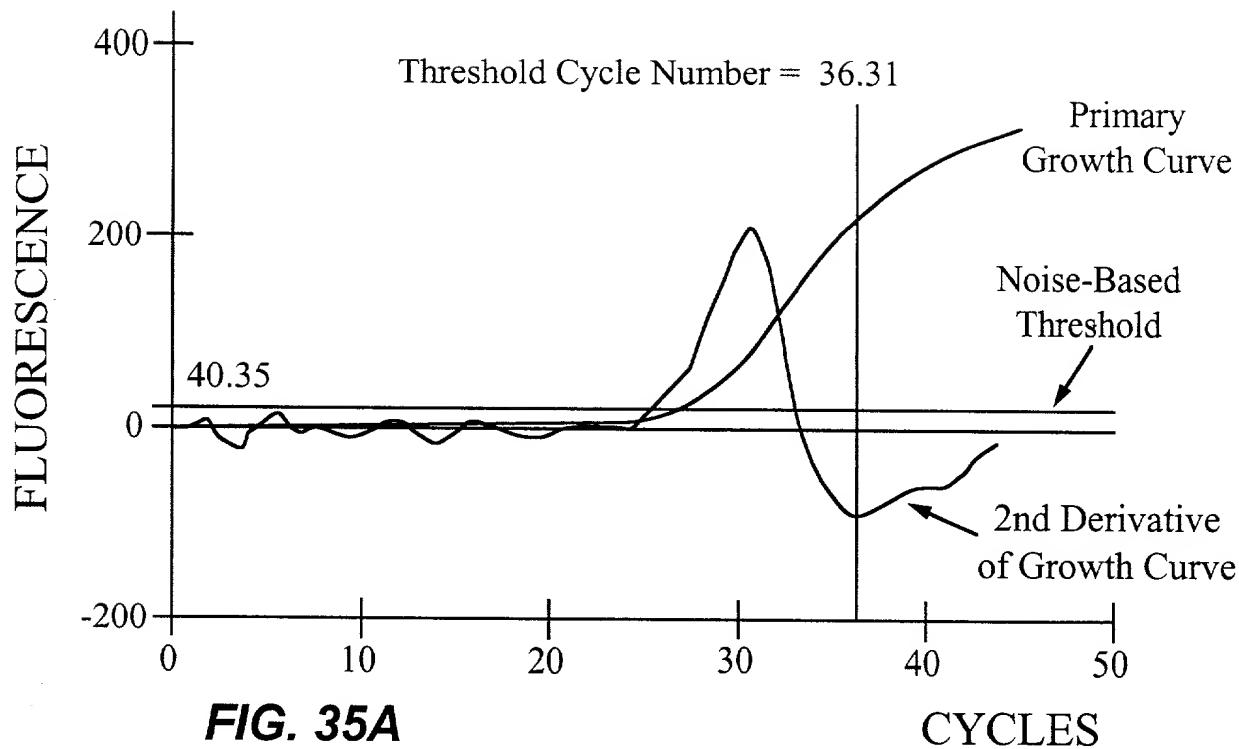


FIG. 34

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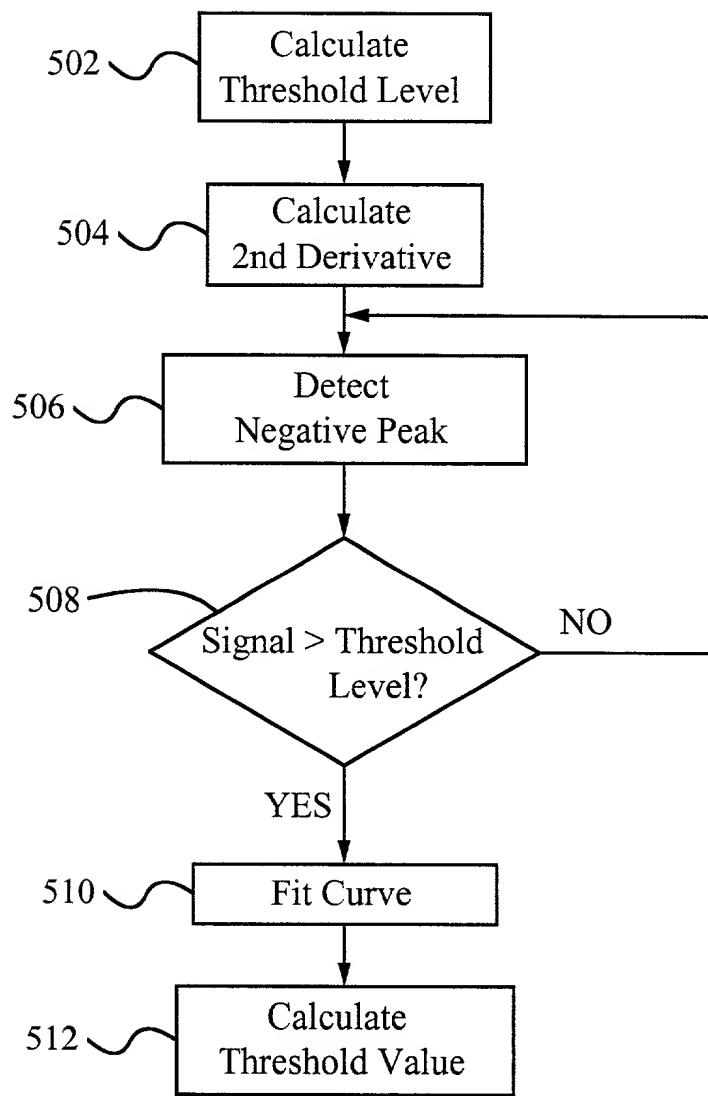
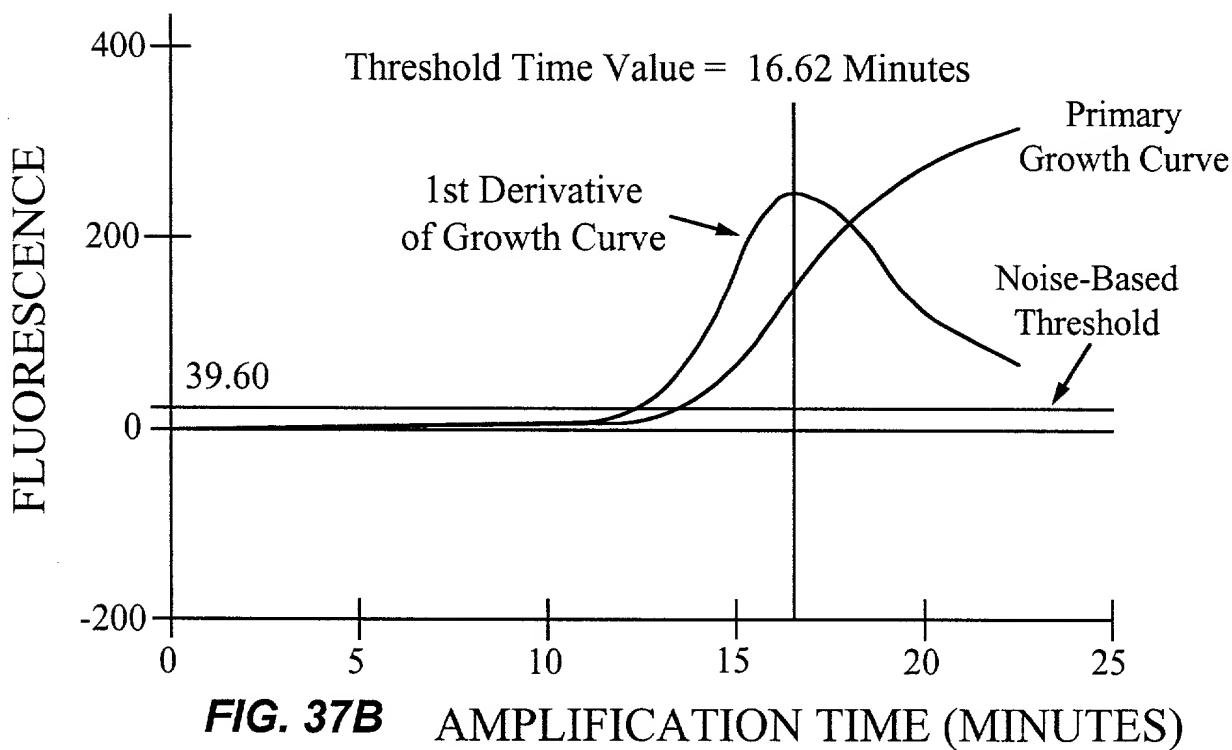
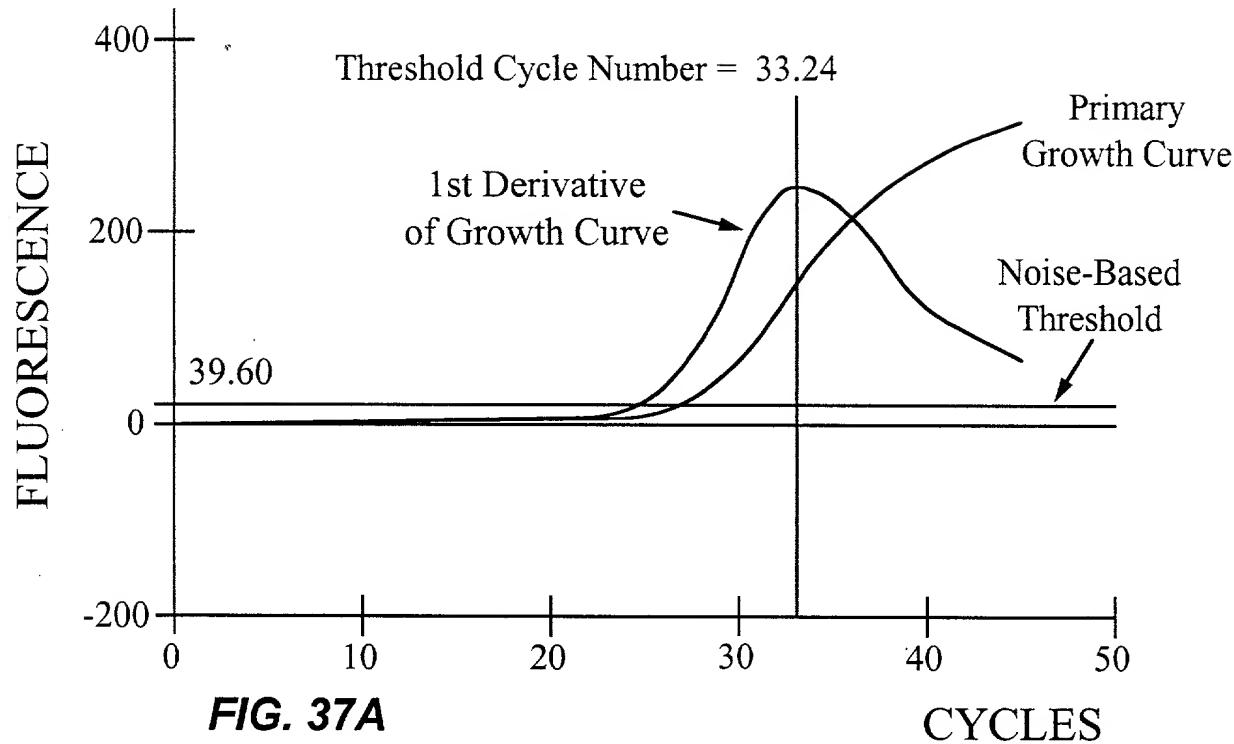


FIG. 36

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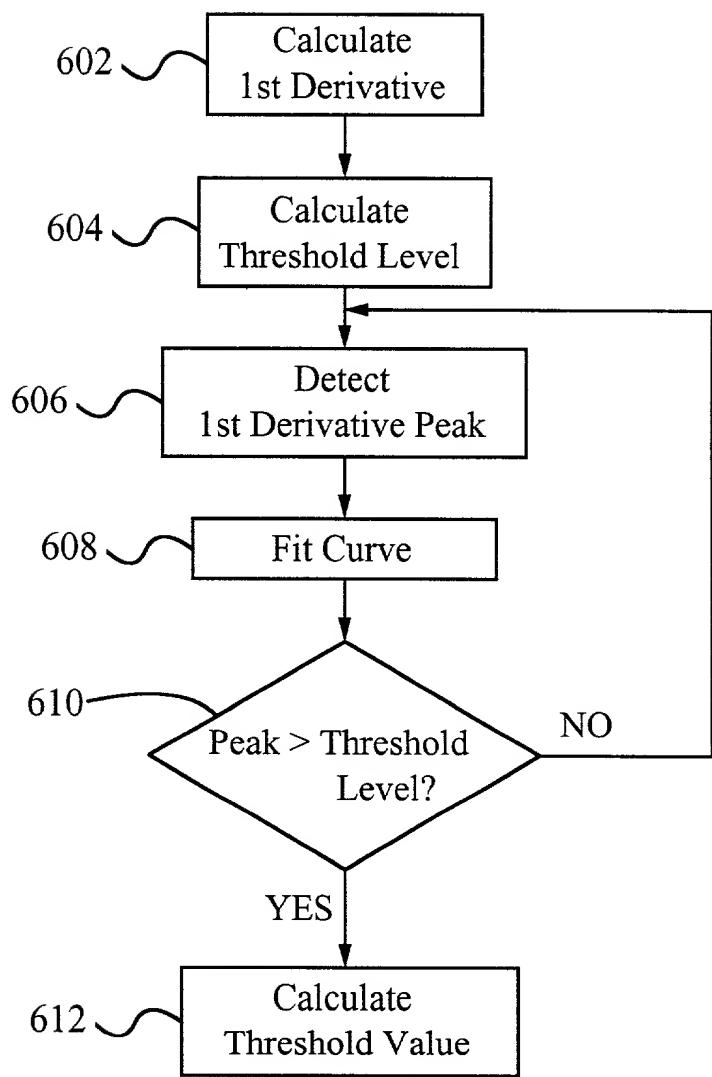


FIG. 38

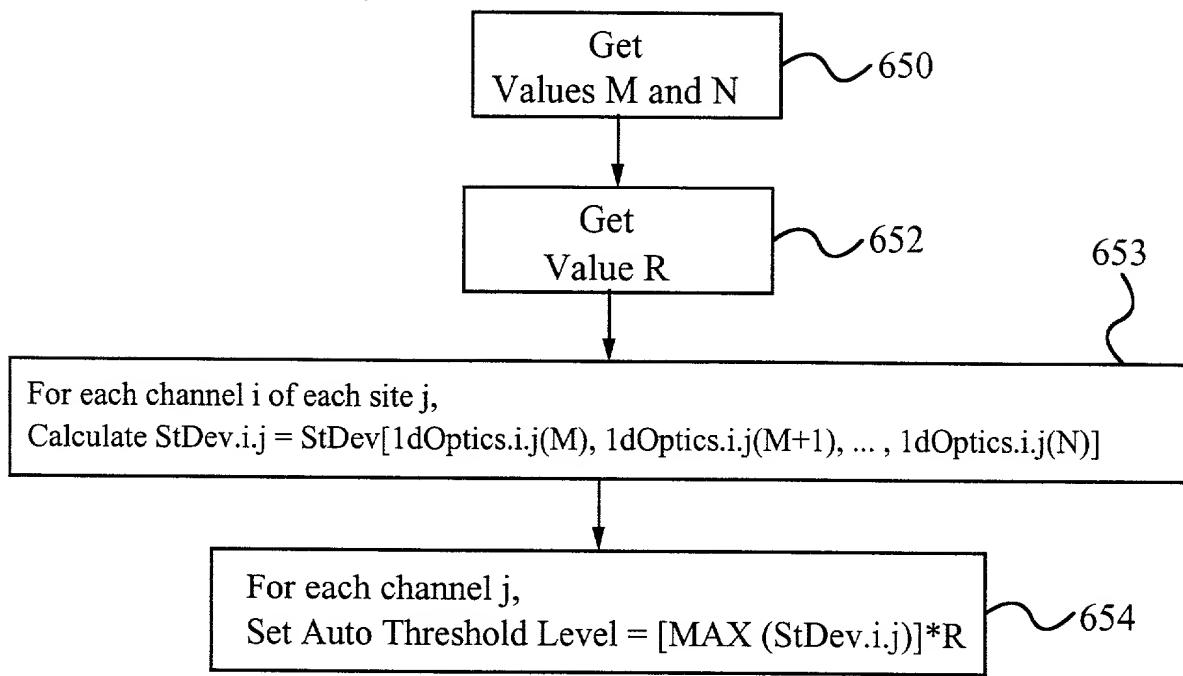


FIG. 39

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Value of Standard					
Site	Sample Type	FAM	TET	TAM	
A1	STD	1000	100	10	
A2	STD	100	1000	0	
A3	STD	0	0	1000	
A4	STD	10	10	100	
A5	STD	100	10	1000	
A6	STD	1000	0	100	
A7	STD	0	1000	0	
A8	STD	10	100	10	

FIG. 40

Threshold Values:					
Site	Type	FAM	TET	TAM	
A1	STD	27.2	28.1	29.1	
A2	STD	29.9	25.1	0	
A3	STD	0	0	22.8	
A4	STD	32.4	30.8	25.8	
A5	STD	30.1	31.2	23.2	
A6	STD	27.8	0	26.2	
A7	STD	0	24.9	0	
A8	STD	32.6	27.9	28.9	

FIG. 41

From the above data, the averages are obtained for each dye at each starting quantity			
COPIES	FAM	TET	TAM
10	32.5	31	29
100	30	28	26
1000	27.5	25	23

FIG. 42

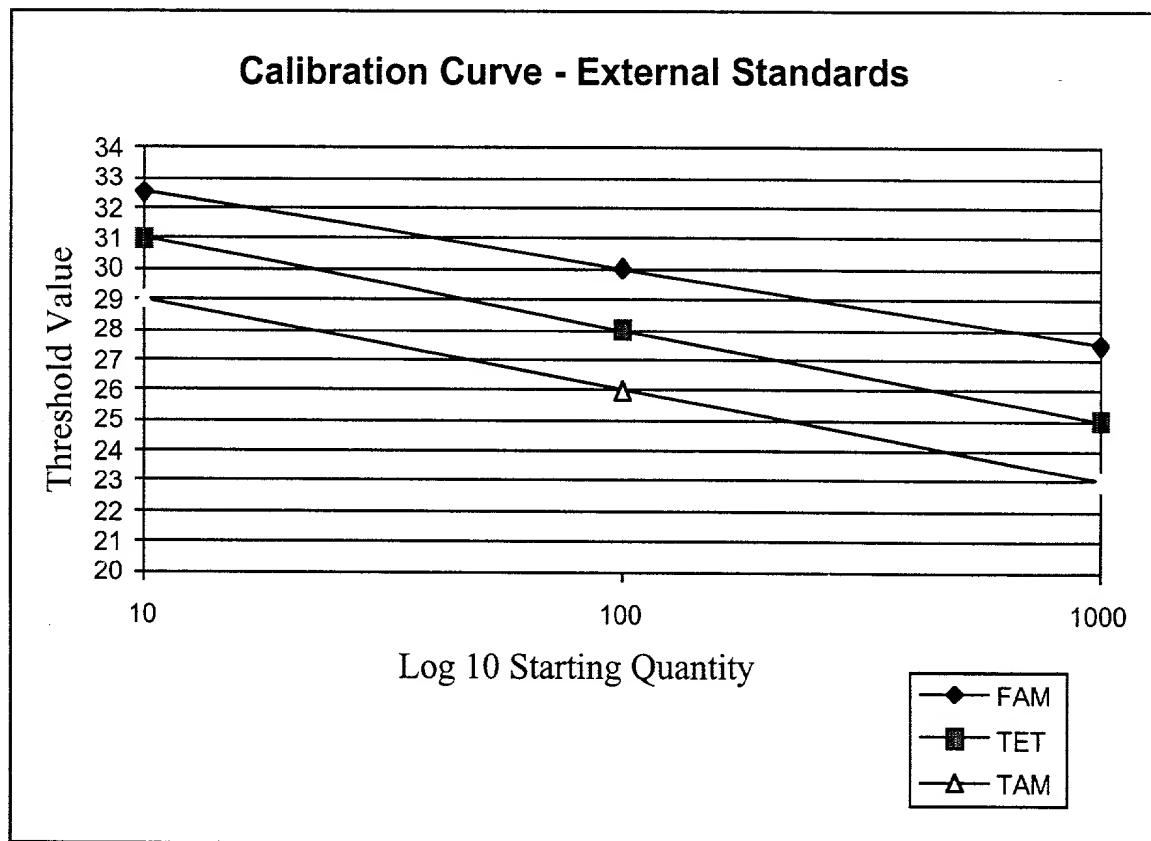


FIG. 43

Dye:	Threshold Value	Determined Quantity
FAM	29	251
TET	29	46
TAM	24	464

FIG. 44

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Value of Standard				
Site	Type	FAM	TET	TAM
A1	STD	1000	100	N/A
A2	STD	100	1000	N/A
A3	STD	0	0	N/A
A4	STD	10	10	N/A
A5	STD	100	10	N/A
A6	STD	1000	0	N/A
A7	STD	0	1000	N/A
A8	STD	10	100	N/A

FIG. 45

Threshold Values:				
Site	Type	FAM	TET	TAM
A1	STD	27.2	28.1	29.1
A2	STD	29.9	25.1	29.3
A3	STD	0	0	29.2
A4	STD	32.4	30.8	28.8
A5	STD	30.1	31.2	28.7
A6	STD	27.8	0	29.0
A7	STD	0	24.9	29.1
A8	STD	32.6	27.9	29.3

FIG. 46

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The threshold values for each standard are normalized to the QIC by dividing them by the threshold value of the QIC.

Normalized Threshold Values:

Site	Sample Type	FAM	TET	TAM
A1	STD	0.934708	0.965636	29.1
A2	STD	1.020478	0.856655	29.3
A3	STD	0	0	29.2
A4	STD	1.125	1.069444	28.8
A5	STD	1.04878	1.087108	28.7
A6	STD	0.958621	0	29.0
A7	STD	0	0.85567	29.1
A8	STD	1.112628	0.952218	29.3

FIG. 47

START COPY	FAM	TET
10	1.118814	1.078276
100	1.034629	0.958927
1000	0.946664	0.856163

FIG. 48

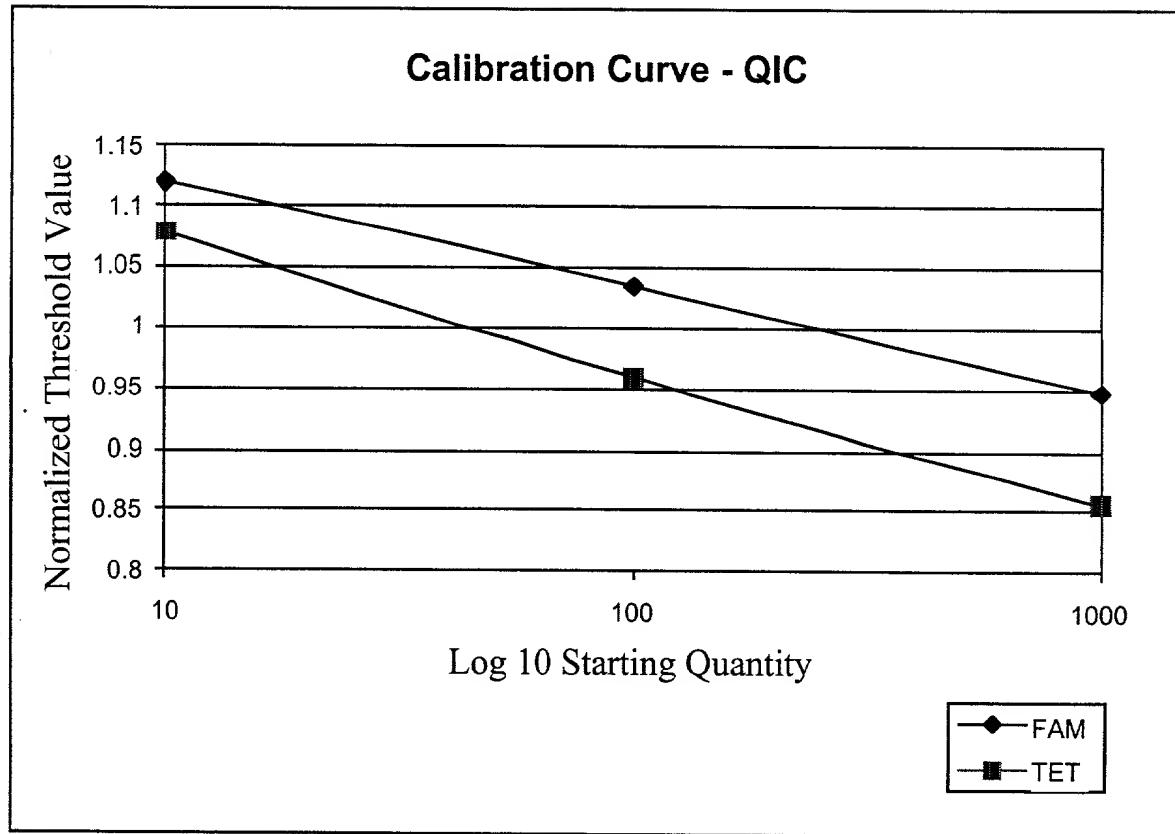


FIG. 49

Dye:	Threshold	QIC	Ratio	Computed Concentration
FAM	29	28.8	1.006944	210
TET	30	28.8	1.041667	21

FIG. 50

Site	Sample Type	Value of Standard		
		FAM	TET	TAM
A1	Unknown w ISTD	N/A	100	1000
A2	Unknown w ISTD	N/A	100	1000
A3	Unknown w ISTD	N/A	100	1000
A4	Unknown w ISTD	N/A	100	1000
A5	Unknown w ISTD	N/A	100	1000
A6	Unknown w ISTD	N/A	100	1000
A7	Unknown w ISTD	N/A	100	1000
A8	Unknown w ISTD	N/A	100	1000

FIG. 51

Threshold Values:				
Site	Sample Type	FAM	TET	TAM
A1	Unknown w ISTD	27.2	30.0	27.0
A2	Unknown w ISTD	29.9	30.2	27.1
A3	Unknown w ISTD	0	30.5	27.4
A4	Unknown w ISTD	32.4	29.8	26.8
A5	Unknown w ISTD	30.1	29.9	26.8
A6	Unknown w ISTD	27.8	29.5	26.5
A7	Unknown w ISTD	0	29.7	26.6
A8	Unknown w ISTD	32.6	30.0	27.1

FIG. 52

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Start Qty	Threshold	Log Start Qty
100	30.2	2
1000	27.1	3

FIG. 53

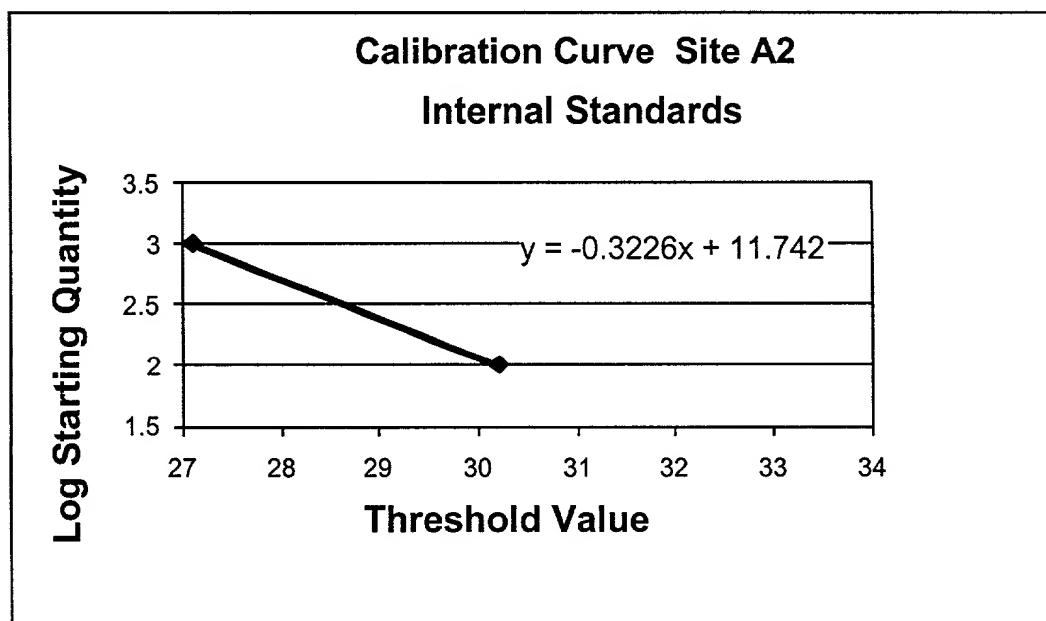


FIG. 54